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EDITORIAL NOTES.

The recent meeting of the American Medical Association in Los Angeles was a great success.

And first let us extend to our colleagues in the South the sincerest congratulations and compliments upon the way in which they entertained the Association and cared for the comfort and the pleasure of all who attended the meeting. Especially to the Committee of Arrangements all credit and our thanks are due; every smallest detail had been thought of and arranged for the convenience of the visitor; there were no words but words of praise and astonishment and our Eastern friends have gone away with a high opinion of California hospitality. Some twenty-two hundred members registered and it was estimated that each member registering represented, on an average, three persons in attendance; comment was frequently made that at no previous meeting had so many members brought their wives, daughters, sisters. The section programs were, in most instances, well arranged and full of interest. The attendance at the sections, in spite of the many beautiful and attractive things about Los Angeles which might have served to tempt the members to wander away, was excellent. The reports of the various officers and committees showed more than the usual amount of good work and progress during the past year, and the House of Delegates got through its work in less

time than at any previous session. The following officers were elected: President, Abraham Jacobi, New York; First Vice-President, William Jarvis Barlow, Los Angeles; Second Vice-President, F. W. McRae, Atlanta, Ga.; Third Vice-President, W. R. Tipton, Las Vegas; Fourth Vice-President, A. L. Wright, Carroll, Iowa; Secretary, Alexander R. Craig, Chicago; Treasurer, Wm. A. Pusey, Chicago; Trustees, to serve for three years, Philip Marvel, Atlantic City; Philip Mills Jones, San Francisco; W. T. Sarles, Sparta, Wis. The place for the next meeting was determined to be Atlantic City; the time will be set by the Board of Trustees. The former Secretary, Dr. George H. Simmons, has served the Association in that capacity for many years and for several years past has been desirous of relinquishing the office. A vote of appreciation and thanks was extended to him by the House of Delegates. Dr. Craig, his successor, comes from Pennsylvania, where he has been identified with the State Society work for some years. The JOURNAL extends to him its best wishes in his new position.

The House of Delegates, at the Los Angeles session of the American Medical Association, passed a resolution commending the new

PUBLIC HEALTH. Owen bill, Senate No. 1. This bill is a great improvement over the previous one introduced by Mr. Owen, and in all probability it, or a bill somewhat similar to it, will eventually be passed by the Congress. At the first suggestion of a National Department of Public Health, a number of the southern states were much disturbed and objected on the ground that it would interfere with the rights of the states; this objection has now been removed and a number of the southern states, through health bodies and the like, have voiced their approval of the measure. Life insurance companies are taking an active part in promoting a feeling of support of the movement, and well they should, for every progressive measure that improves public health conditions tends to lengthen human life and thus directly effects the insurance companies advantageously. In the course of time this activity on the part of the insurance companies may be expected to counteract in part the effect of the so-called "league for medical freedom," which, as everybody knows, is trying to oppose and tear down everything tending to improve health conditions. When you meet any one who is interested in or belongs to this "league," just ask him if he knows who is putting up the money to support it, to pay for its very expensive news bureau, to pay for the advertisements with which it has subsidized a considerable number of newspapers—and why the money is spent! It is not a promising time for the corrupt interests; people are asking too many "whys." Some interest or interests are spending hundreds of thousands of dollars to defeat the Owen bill. Why? Also from some source come many thousands of dollars to support the "league for medical freedom." Why? There are some very fine and well-paid-for brains running this "league." Who pays for them and why? *Collier's Weekly* has had some very illuminating articles explaining the "why."

It is of the utmost importance that county society secretaries should realize that the business of conducting the affairs of the State **OF GREATEST IMPORTANCE.** Society, and of the component societies, is no trifling matter.

The work has grown so much, in the last few years, and especially since the State Society undertook the defense of all members in good standing, in malpractice suits, that it can only be properly conducted by the exercise of business principles. Members receive, for their small annual assessment, what it would cost them at least fifteen or twenty dollars to buy outside of the Society. But it takes money to run the Society and do all the work it is doing. This money, when due, must be promptly paid. All assessments are due and payable in January; county societies and individual members thereof will be carried till the first of April, but on that date all who have not paid will be dropped and any cause for alleged malpractice occurring while a member is not in good standing—if his assessment has not been sent in by his county secretary—will not be defended by the State Society. This may seem to you a trivial matter, but if you happen to have a suit filed against you some day, and then discover that you had allowed your dues to accumulate and were not in good standing, it would not seem so trivial. There is some difference between the few dollars you pay for your county society dues and the several hundreds or thousands of dollars it might cost you to defend a suit. And remember that you never can tell when such a suit will be instigated. Membership is worth a good deal to you; far too much for you to take any chances of allowing it to lapse.

Some little comment and criticism has arisen from the publication in the JOURNAL, at various times, of matter relating to a suit against

MEDICAL DEFENSE. Dr. Kreutzmann in which Dr. von Hoffman testified. Space has been given to the statements of these gentlemen respectively, and in former issues to a rather lengthy discussion of the case itself, for the reason that it is typical of the sort of suit that never should be brought and that imposes a terrible burden and a great injustice upon the physician who is sued. In this particular case, it is generally understood, the personal equation was far from negligible; there was said to be more or less unfriendly feeling existing between the two gentlemen who have engaged in the controversy. But setting that element aside, we should consider the case as an ordinary example of the sort of malpractice suit that may at any time be filed against any one of us, which has no real merit in fact and which we should unitedly oppose. No physician could live and practice for a year without making some error in diagnosis. This the law itself recognizes. Ordinary skill is all that the law demands; the trouble is not with the law but with the sympathies of jurymen, laymen who do not understand and who may be greatly influenced by the words of an opposing physician whose opinion may be honest but distorted by his feelings. The State Society is now defending all of its members against malpractice suits; it is a great responsibility

and it should be so considered by every member of the Society, for any member may be sued at any time, justly or unjustly. Experience has shown that nearly all these suits are without the shadow of justice; they are merely attempts to avoid paying a bill, or pure blackmail. If we all stand together and refuse to be blackmailed or defrauded of our just charges, there will soon be an end to these tricky practices. But each one of us must do his part and all envy or personal animosity must be forgotten.

The discussion over the "product patent," or a patent covering a medicinal substance in contradistinction to a process patent, or a patent issued covering merely a certain definite process for manufacturing a medicinal substance,

PRODUCT PATENTS.

has lasted many years and would fill sundry volumes. Just at present it is of interest because of the fact that a most important case is now in the United States courts. Dr. Takamine separated, by a certain process of his own devising, the active principal from the suprarenal glands; the existence of such a substance had been known since 1856, but it had not been isolated in its pure form. The United States issued a patent on the product to Dr. Takamine, and this product was later placed on the market by Parke, Davis & Co., under the name "adrenalin." The substance is generally referred to in technical literature under the name epinephrine, and will be found described under that name in "New and Nonofficial Remedies," issued by the Council on Pharmacy and Chemistry of the A. M. A. The H. K. Mulford Company prepared this substance by a different process and put it on the market under the name "adrin." Action was taken to sustain the patent issued to Dr. Takamine, and on April 29, 1911, a decision sustaining certain of the claims of Dr. Takamine was handed down. The Mulford Company announce that they will withdraw their preparations pending the final settlement of the case on appeal. The final result of this case will be interesting, particularly as we understand that the Section on Pharmacology of the A. M. A., passed resolutions deploring the issuing of product patents. Patents of this character would not seem to work to the best advantage in the development of pharmacologic practice and medicine in general.

A man in Los Angeles, by the name of Thomas Powell, M. D., has certainly reached the extreme point of modesty in announcing a scientific and a wonderful discovery. He must be a most remarkable man. He says he has written a book, and certainly he seems to have sent out a prospectus of a "New and practically complete medical philosophy entitled Fundamentals and Requirements of Health and Disease." There is nothing so startling about the title, except that it implies the filling of a pretty large order. The real modesty of the man appears when he speaks of himself. The "prospectus" states that "the author has solved the confessedly unsolved problems

EXTREME MODESTY.

of life from locomotion to tumors, tubercles and cancer cells, by pointing out the hitherto unknown causative factors." Again is our admiration for the author's modesty excited when we read that his book contains "a fund of information similar in character and surpassing in point of importance that which is embodied in the discoveries of Sir Isaac Newton." Poor old Ike!

The medical profession has rarely listened to an address of greater range or more important application than the masterly presentation of Dr. Murphy at the opening **MEDICAL EDUCATION.** of the sixty-second annual convention of the American Medical Association. Among the many subjects considered by the incoming president was that of medical education. It is possible that among matters of more immediate interest its significance may be overlooked, but fundamentally it is by far the most important part of Dr. Murphy's address.

Those of us who are in a position to know the educational status *praesens* of the great bulk of the medical profession are most thoroughly aware that the chief objects for which they have endured several years of instruction have not been attained. It is assumed that the graduate leaves college prepared to deal with the problems of disease according to the accepted methods of science—considering each symptom of his patient's condition in relation to its probable cause—seeing in his mind's eye its physiological relations and foreseeing its possible pathological results. Further, that the ability thus assumed will be strengthened by practice until the scientific habit of investigation becomes automatic by repetition, and those seeking the physician's aid receive the benefit of trained scientific observation and thought. Only thus is made the scientist in other fields of knowledge. Such is the theory, but what is the actual practice?

To begin with the qualifying examinations in greater part seek knowledge of facts and not the ability to make use of them. When the latter requirement is maintained a large percentage of the men after making the necessary mental effort, for the time being, on entering practice fall into the rut of routine, varied by the therapeutic fad of the hour. It is no assumption, but a statement of fact based on an intimate personal knowledge of the mental equipment of medical men of all periods of life and from schools of all classes, that compels the writer to assert that only a small proportion of practitioners habitually consider a case from the scientific standpoint. When a thorax is correctly auscultated, (which is by no means the invariable rule) and, let us say, prolonged expiration noted, the observer thinks of the discovery, not in terms of

altered lung tissue but as signs of tuberculosis. The discovery of a Babinski reflex is mentally associated with certain diseases, and not with a definite perversion of the normal physiology of the cord. To a large proportion of the profession, how large it would be unpleasant to state, mankind suffers from diseases characterized by certain symptoms for which certain remedies are good. Whatever be the theory of their education, that is their practice. They may have been taught differently in college; they have forgotten their teaching. If anyone doubts this let him investigate the answers given by graduates of ten and more years' standing at the state examinations. They are a mild, a very mild test, but they will teach the optimist something. Now what is the cause and what the remedy of this state of affairs? Dr. Murphy puts his finger accurately on one weakness—we have too few teachers. The medical instructor having the gift of teaching or trained therein as an art is the exception in a medical college. The professor of the past knew no more of the subject than he could extract from a text-book, the university professor of the present is, as Dr. Murphy indicates, a specialist usually working in a limited field of the subject he teaches and quite often with none of the instincts of a teacher or the ability of an expositor. In a sense the conduct of medical education is absurd. Instructors in primary, grammar and high schools are all taught the art of teaching, but in a field in which the complexities and interrelations are much more profound than in general education, pedagogy has no place. Furthermore the average curriculum which should be the work of skilled pedagogues is nothing more than a statement that certain subjects should be taught for a certain number of hours. The subjects for the most part are taught as though the teacher knew nothing else and each item were equally important. The anatomist rarely refers to surgery and morbid anatomy; the teacher of physiology never illustrates from the field of pathology. There is no attempt in the medical course to give the student an idea of interrelation or perspective. He is not taught to reason from one subject to another; to draw, for example, physiological conclusions from pathological data; and at the end of the course he is rarely able to do so. What wonder is it that he remains an empiric throughout his professional career, either obstinately devoted to what he may have seen others do in early life, or according to temperament, the practice of every fad that comes to the fore. To sum up, in the subjects of their profession medical men are instructed but not educated, and they never will be until medical education is subject to pedagogic principles and is taught by teachers.

H. D'ARCY POWER.

"It was noted by the nurses in the ward that the preoperative surliness became a postoperative sunniness, and scowls and complaints changed to smiles and compliments—a complete dispositional reversal."

This is the concluding sentence of a recent article. It struck us as being out of the common in contemporaneous medical literature.

A RAY OF SUNSHINE. Whether for praise or censure, it deserves to be detained for a moment in its career to the files. Observe the artifice of alliteration, the perfection of balance, and the ostentation of oddity. We suspect that it was written with a twinkle in the eye, the tongue in the cheek, and a nudge of the elbow. It looks as if the writer was recording the happy termination of his labor with satisfaction commensurate to his success, and in such a mood was inclined to pleantry.

But should he have thus indulged his propensity? No doubt there are many who read their medical journals with an earnestness befitting the gravity of the matters they deal with. They would resent jocularity, or what they may deem literary flourishes, as being flippant or trivial, as much as a contractor might object to a similar departure from the technical language of a building specification. These prosaic souls would not welcome the relief from common-place technicalities which is offered by a display of humor, an apt quotation, or originality of diction.

For our part we find that much reading of current medical literature produces by its monotony a weariness or irritation of the mind. At the risk of fostering verbosity and pedantry we should rejoice if we were to meet with a medical description written with the stateliness and regular cadence of Gibbon, or with an exposition of principles in the massive and perspicuous, though turgid style of Johnson. Hyrtl's "Anatomy" is enlivened by much facetiousness. In Hilton Fagge's "Medicine" the several chapters are supplied with mottoes derived from the polite literature of England. Dr. Osler does not disdain to season his articles with classical quotations or anecdotes. Sir William Gowers once confessed that he had been expressing trite remarks in "recondite" language in order to impart to them an air of "novelty and freshness." We would tolerate much that is recondite in our medical reading for the sake of novelty and freshness. But of course,—*ne quid nimis*.

But little attention has been directed in this country to the study of conditions whose clinical picture resembles closely chronic appendicitis but in which the operative findings are an apparently normal appendix, cecum and ileum. The appendix is removed, the abdomen closed and the patient makes an uninterrupted convalescence, none the worse for the procedure,—but the symptoms are unrelieved.

These cases have been carefully studied in a number of the German clinics during the past three years. In an article published in the "*Deutsche Medicinische Wochenschrift*," No. 41, 1908, pp. 1756-58, Wilms claims that a certain number of

these patients are sufferers from what he terms *coecum mobile*. The cecal pouch is unduly movable, in some cases may be brought out of the wound and down as low as Poupart's ligament. The cardinal symptoms are: attacks of colic; tenderness over McBurney's point; accumulation of gas in the right iliac fossa, producing upon palpation the sensation of an air cushion under the hand; and chronic constipation, sometimes chronic diarrhoea. There is an absence of muscle-spasm or rigidity. For the relief of the condition he has devised a method of anchoring this abnormally mobile cecum in a retroperitoneal pouch. (*Zentralblatt für Chirurgie*, No. 37, 1908, pp. 1089-91.) Wilms claims by this method to have cured a number of cases in which a previous appendicectomy performed by himself had failed to give relief.

A year later, Fischler (*Mitteilungen und den Grenzgebieten*, XX, 1909, p. 623 et seq.), studying this question, concluded that the mobility of the cecum is secondary and that the primary factor is a catarrhal process of the ileo-cecal region followed by atony and dilatation. His evidence is extremely meagre, and the three cases quoted by him are most unconvincing. The conclusions and speculations based upon the evidence Fischler presents seem to be rather the results of a green table than of a bedside study.

Stierlin, an assistant of Wilms, has collected the cases treated for *coecum mobile* in the Basil clinic and states that they have been able to cure 75% of the 43 cases operated upon by the Wilms retroperitoneal pouch method. His beautiful collection of serial radiograms shows dilatation, mobility and atony of the cecum; but one cannot help feeling that he has overlooked the importance of the general enteroptosis. The influence of diet upon these patients is not mentioned.

Stanton (*Annals of Surgery*, June, 1911, p. 813) recognizes this group of cases and claims to be able to differentiate this condition from that of chronic appendicitis by means of the location of the pain which; in the movable cecum group is in the right iliac fossa, whereas in the cases of chronic appendicitis he maintains the pain is rarely elsewhere than in the mid-abdominal region. This is a point that requires restudy as it is not born out by the experience of the writer, with respect to chronic appendicitis.

That there is a small group of patients coming to operation with the diagnosis of chronic appendicitis, but in whom the surgeon fails to reveal any lesion accounting for the symptoms, is common knowledge. These unfortunates belong to the rapidly decreasing heterogeneous *melange* labeled neurasthenics. The soundness of Wilms' contention requires further support, the rationale of his therapy much more convincing proof than has as yet come to light. But it is the duty of those in charge of our large internal and surgical clinics to study thoroughly these cases of the chronic appendicitis group by means of all the modern methods, physical and chemical, so that we may be able to bring the number of unindicated operations down to a negligible minimum.

S. H.

ORIGINAL ARTICLES

NASAL PLASTIC, WITH FREE TRANSPLANTATION OF BONE.*

By L. ELOESSER, M. D., San Francisco.

Plastic surgery has in the last few years again begun to come to its own. The extension of our knowledge of the healing and of the growth of tissues, better insight into the relations of cell-life to its environment, and the progress of constructive surgery that the last decade has brought have begun to bear fruit, and men are again beginning to push forward along the paths first opened by Dieffenbach, Nelaton, Langenbeck and their compeers;—paths where work had almost ceased these fifty years.

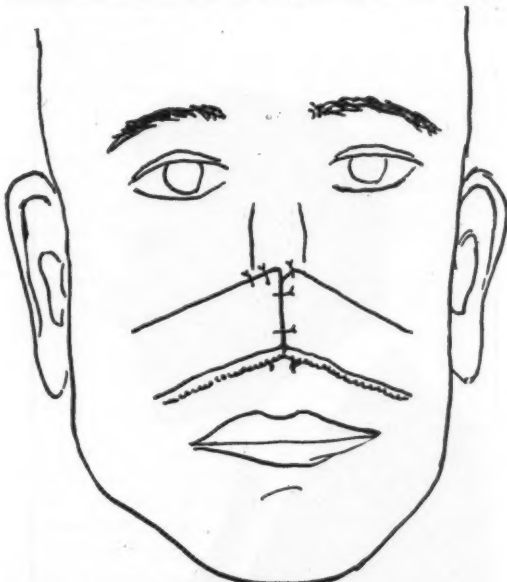


Fig. 1. Flaps from cheek attached to nose. 1st operation.

Plastic surgery of the face is ancient; one can read of plastics of the nose in Sanscrit writings. The Hindu surgeons had abundant opportunity of treating patients whose noses had been cut off in war or in captivity. They are said to have used a free transplantation from the buttocks, which were made hyperemic before operation by flagellation. Attempts by French surgeons in the beginning of the last century to reproduce these operations failed.

Dieffenbach in the middle of the last century devised many plastic operations on the face and the nose and carried them out with success. It was Schimmelbusch, however, who first enunciated the principles underlying every successful nasal reconstruction, viz.: that the new nose, if it is not to shrink and to sink to a shapeless mass, must have a lining of epithelium and a support of bone. He took his material from the forehead, making a flap of skin, subcutis, periosteum and outer layer of the frontal bone. Lexer has recently elaborated Schimmelbusch's ideas to a high degree, and shows some most notable drawings and photographs in his arti-

* Read in part at the Academy of Medicine, San Francisco, April 24, 1911.

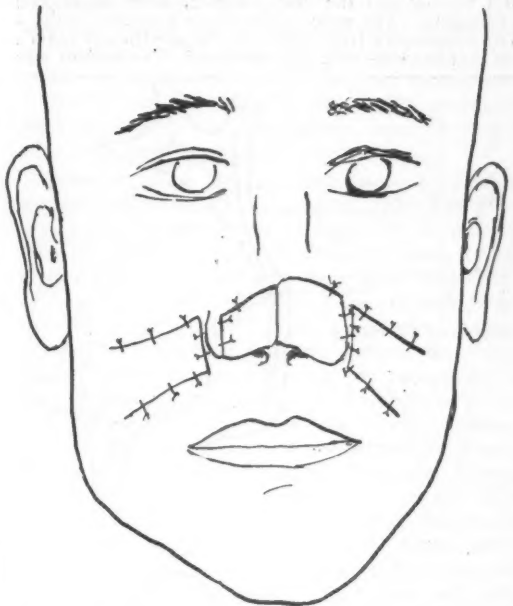


Fig. 2. Pedicles of flaps detached and sutured back into place, ends of flaps attached to nostrils. State after 2nd operation.

cle.* He insists upon the necessity of covering both the cavities of the nose and the bony flaps with sound epithelium, and of working in healthy tissues; he uses all remnants and tabs of the old nose to this end, instead of utilizing them to patch into the new one. Lexer's work signalizes the highest development of the modern plastic.

The patient whom I should like to show you to-night is a head-waiter who was attacked by an infuriated subordinate last August. The man seized him "and chewed his nose off like a dog," as he says. I first saw him some three months after the accident, at the City and County Hospital, where Dr. Terry was good enough to let me have his charge. An Italian plastic from the forearm had been attempted unsuccessfully; this was unfortunate for two reasons, first, that the plaster cast holding the arm to the face had made a pressure-sore over the bridge of the nose, and second, that the sufferings of the patient in this strained position with his arm to his head, had been such that he declined to have anything further done which would necessitate his being put up in a cast a second time. I was therefore forced to take my material for the plastic from the head. I regret not having a photograph of the state of the patient before the first operation. The soft part of the nose was gone, the remains of the alae shrunken, and the scar of the pressure-sore on the bridge of the nose thin and of a bluish color.

At the first operation on November 17, 1910, I cut two long flaps from the cheek, following the nasolabial fold with their lower borders as far as possible, and attached their free edges to the bare edge of the septum and of the alae of the nose. They healed well, and two weeks afterward I cut the flaps through, completing the sutures around the nostrils, and sewed the remainder of the flaps back in their original position. After these wounds had healed a cleft remained in the middle of the nose where the two flaps had met. This I filled out at a third sitting with a small bit of material redundant from one flap, turning it about 90 degrees and sewing it to the freshened edges of the cleft. It healed, but

* Archiv f. Klin. Chir., vol. 92, p. 749.

did not fill out the cleft entirely, some depression remaining. The nose at this stage presented quite a fair appearance from the front, but the tip was sunken so that the side view was not good. The patient was

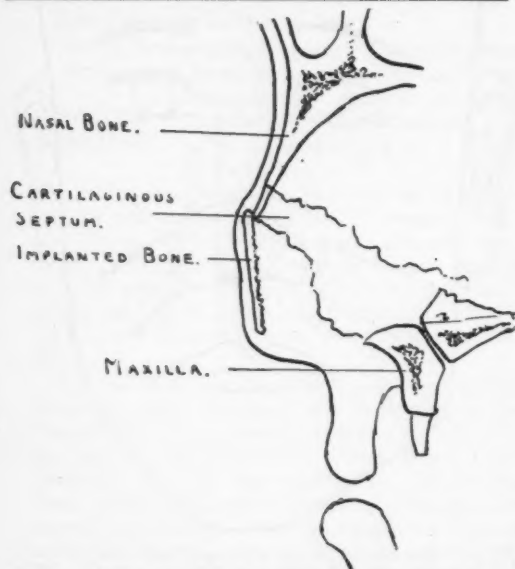


Fig. 3. Sagittal section of nose with implanted bridge-plate. State after 4th operation.

then discharged from the hospital, as he thought he could get work. I saw him again two months afterwards; he said that he found difficulty in holding his position on account of his appearance, and asked me to try to give his nose a better shape. The tip was more sunken than when he first left the hospital, and

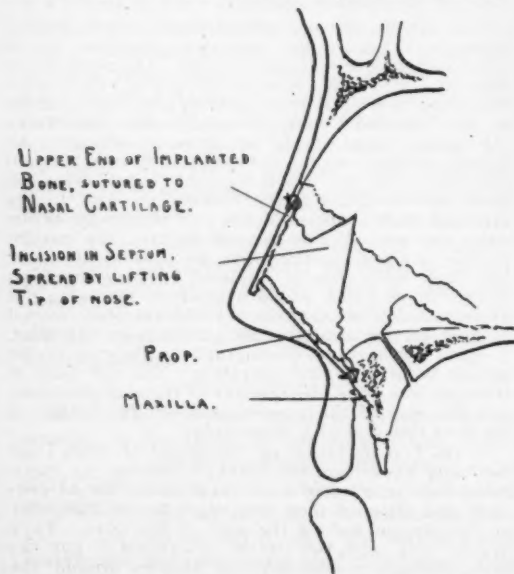


Fig. 4. Sagittal section of nose, upper end of bridge-plate sutured into notch in cartilage, prop under lower end. State after 5th operation.

the skin over the bridge at the site of the old pressure-sore was very thin. On attempting to raise the nose by inserting a forceps into the nostrils, it seemed as though it were mainly the septum which was binding the nose down. The patient was ad-

mitted to the University of California Hospital, where Drs. Sherman and Huntington kindly allowed me to go on with the plastic.

At the fourth operation, the middle of March, I sought to raise the nose by inserting a piece of bone beneath the skin of the bridge; I resected a piece of the ninth rib, about 2 cm. long, carefully preserving its periosteum, halved the piece so as to make two flat plates, and shaped one of them into a trapezoid about $\frac{1}{2}$ cm. wide at the upper end, $\frac{3}{4}$ cm. wide at the lower, and $1\frac{3}{4}$ cm. long. This I inserted subcutaneously into the tip of the nose through a small curved incision along its inferior aspect, undermining the skin sufficiently far up to admit of the insertion of the little bridge-plate. I then tried to lift the tip of the nose so as to make its profile straight, but saw that the thin skin above the plate became white and anemic, so that, fearing to hazard the nutrition of the transplanted bone by this maneuver, I judged it more prudent to wait until the life of



Fig. 5. State after 5th operation.

the implanted piece was assured. The bone healed in well, but the nose was still not straight; the upper end of the implanted bone had ridden up over the tip of the nasal bone and protruded at this place with a sharp angulation, while its lower end was still not high enough to fall into the line of the bridge. I therefore undertook the fifth stage of the operation, two weeks afterwards. I first made a small incision just at the side of the bridge of the nose and drilled a minute hole into the end of the transplanted bone; through this I put a gut suture, fastening the plate into a notch made into the cartilaginous septum, so as to prevent its riding up again. I then resected a long sliver of bone from the upper edge of the same rib that had furnished me with material two weeks before, again carefully keeping its periosteum. I incised the septum of the nose along its free edge, and drilled a hole into the upper maxilla just below the nasal spine at the base (posterior end) of the incision. One end of the sliver of bone I inserted into this hole as a base, the other I endeavored to slip under the bridge-plate in the tip of the nose, but found that the cartilage of the shrunken

nasal septum bound the tip of the nose down so firmly that it was impossible to raise it far enough to get the prop of bone under it. I therefore incised the cartilaginous septum for a distance of about 1½ cm. in an upward direction, and was now able to raise the bridge-plate far enough to admit the upper end of the prop. The bridge-plate then rested on the prop as the ridge of a tent does on a tent-pole; the tip of the nose was elevated and made a line now quite straight with the rest of the bridge. The wound became infected after this last operation, probably owing to contact with the nasal mucosa; the patient had a few days of fever and an abscess showed in the gums above the upper incisors, which was drained, and healed in about a week. The patient's present appearance is gratifying. His nose is straight when seen in profile, and presents a creditable appearance from the front. The scars in his cheeks have grown paler and considerably less noticeable during the last few months, and falling to a great extent in the natural lines of the face, are not disturbing.

I think, gentlemen, that this case shows the importance of the use of autogenous living material in bone-transplantation. Had I introduced silver, or celluloid, or dead bone, or even the bone of another individual as props for my plastic, I would, I think, have stood a very slim chance of their remaining in situ after the infection of the last operation, and the work of the four previous operations would have been lost.

The patient showed himself on July 26th, four months and a half after the first implantation of bone. The implanted bone was firm, showed no signs of reabsorption or elimination. All of the scars had remained closed.

INTESTINAL INDIGESTION IN ADULTS.*

By E. SCHMOLL, M. D., and WALTER C. ALVAREZ, M. D., San Francisco.

For many years now, physiologists have been pointing out that the most powerful and varied ferments are those poured into the small intestine; that its absorbing surface is the largest part of the tract, and that intestinal digestion and absorption must be, if anything, more important than that which takes place in the stomach. When we remember, however, how slowly advances in the cognate sciences make their impress upon general medicine, it is not so surprising that we have to search carefully even in our latest books for any mention of intestinal digestion and its disturbances. There is no such heading amongst the able articles of Albutt and Rolleston's system, and but two pages in Osler's system. Instead, we have a bewildering multiplicity of names for very much the same train of symptoms, while the varying classification and the hazy indications for treatment only show our ignorance.

The first question that arises is, in what cases are we to suspect the presence of intestinal indigestion? Probably in no other situation have we more need for remembering what Plato has said of medicine, "This is an art which considers the constitution of the patient."

It is generally accepted now that the proper function of most of the abdominal organs depends largely on the maintenance of abdominal equilibrium. Also, that the position of an organ is not maintained by the delicate folds of peritoneum called ligaments, but depends upon the tone of the

abdominal muscles, the integrity of the pelvic floor and the relative size of the abdominal cavity and its contents. We were not surprised, therefore, when we found that the most marked instances of defective intestinal function are usually associated with mucous colitis, constipation, etc., in people who have more or less enteroptosis.

Granting, then, that we must always suspect intestinal indigestion in the enteroptotic, when must we suspect the presence of enteroptosis? If we still held the views of Glénard, we would look for his disease only in women who have borne many children, or who have had some sudden change in abdominal pressure; but Stiller has shown us that there is an underlying basis for enteroptosis, a congenital predisposition which can be recognized in the "Habitus Enteroptoticus seu Paralyticus."

Thus we must be on the lookout for a woman, or frequently enough a man, with a small frame, poorly developed muscles and a long, flat thorax, which has a very narrow epigastric angle. The diagnosis in severe cases is made even before the patient undresses. On standing, the lower abdomen is protuberant and the upper part is flat and retracted. On lying down, the organs fall back into their places and may be palpated perfectly through the thin, lax wall. Under these conditions it is very easy to demonstrate that the colon, stomach, liver and kidneys are below their normal positions. Succussion sounds are easily obtained in the atonic stomach, and the greater curvature may often be mapped out in this way. Atony and ptosis of the stomach will be found in all typical cases of the disease, but we cannot emphasize too strongly the fact that this is but a part of the general picture and any attempt to deal with it as an entity will result in failure.

The great etiologic importance of enteroptosis is beautifully shown in the cases where there has been a rapid loss of weight from some cause or other—often in women who have been reduced too rapidly, or in people who have gone through some debilitating illness. The rapid change in abdominal pressure brings out a latent enteroptosis which disturbs digestion and leads to further loss of weight. We would emphasize the fact that the vicious circle thus formed can be broken only by forced feeding.

The history of digestive disturbance generally goes back a long way to childhood, or possibly to the time of mental stress at college. Rarely can anything definite be ascertained as to the particular foods that disagree. Some patients avoid starches and a few have learned to leave bulky vegetables alone. There is rarely any nausea or vomiting, only a sense of fullness after meals and an annoying consciousness of digestion. There is no definite localized pain such as we expect to find in gastric or duodenal ulcer; the discomfort does not come at any definite time after eating, nor is it relieved by the taking of a little warm food.

There may often be some vague, poorly defined abdominal pain, and when mucous colitis is marked, careful inquiry will often reveal a history of occasional acute attacks of very severe pain. Such at-

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tacks quite frequently lead to the removal of a normal appendix.

Flatulence is generally a cardinal symptom and this often leads to circulatory symptoms which may greatly alarm the patient. In fact, a large proportion of our cases have been referred to us for heart disease, when all that was needed was the correction of intestinal indigestion and the embarrassment of the diaphragm. Another cause for the impaired circulation so generally found in these cases is the imperfect action of the diaphragm in its lowered position. Although the fact is not generally recognized, the diaphragm is one of the most valuable adjuncts of the circulation. Under normal conditions it descends on inspiration, and while producing a negative pressure in the thorax, at the same time it expels blood from the abdominal cavity by squeezing the great veins against the tonic resistance of the abdominal walls. In enteroptosis, the diaphragm drops as low as its mediastinal connections will permit so that during inspiration, it can descend only a little way before it is carried up by the movement of the thorax as a whole.

At times these people will digest quite well, but when much fatigued their functions may be almost paralyzed. In fact, they are so susceptible to fatigue and its sequelae that Stiller's book is entitled, "The Asthenic Diathesis."

In spite of the poor digestion which leaves a bulky irritant residue in the colon, constipation is generally obstinate. This must be due largely to the prolapsed and atonic condition of the colon, which, again, is but a part of the whole picture.

Foremost among the means of judging of the efficiency of intestinal digestion must always be the examination of the stools, but, owing to the idea that it is a difficult and laborious procedure which must be preceded by the giving of a test diet, it has not come into general use. By eliminating the test diet, which we have found to be neither necessary nor desirable, and by simplifying the method of examination, we are able to use this procedure in all cases where there is a suspicion of digestive disturbance and have found it an invaluable aid in diagnosis, and especially in the adapting of diets to individuals. In fact, the information so easily gained in this way has proven to be so much more useful than that obtained by gastric analysis, that now we employ the latter procedure only when there are definite signs of gastric involvement.

Although intestinal digestion is generally affected more or less as a whole, different types may be recognized, according as we find starch, cellulose, or meat, preponderating in the excreta.

No discussion of intestinal indigestion would be complete without a few words on mucous colitis. This common condition, which has received very little attention in this country, is very closely related to enteroptosis, intestinal indigestion and constipation. Our experience has been that they nearly always go hand in hand. In many cases, indigestion seems to be secondary to a very severe mucous colitis and in others the colitis seems unimportant and often remains quiescent, but they react one upon the other and are both dependent upon the en-

teroptosis. We see this in men especially who may have the indigestion without enteroptosis. Such cases have no mucus in their stools. This complication is more or less responsible for the tender, thickened colon, the vague abdominal pain, the acute attacks resembling appendicitis, the flatulence, and the bran-bread diet that these people are generally taking to add to their misery.

The bran-bread, etc., are taken with the idea that the constipation is due solely to an over-hungry colon and that it can be cured by increasing the bulk of the feces with some indigestible substance, such as woody cellulose. Our studies have shown that just the reverse is true and that these people have the greatest difficulty in handling the cellulose in their diet. The great importance of cellulose lies, not in its food value, but in the fact that all vegetable foodstuffs are in little capsules which must be dissolved or burst before the contents are available. If the capsules remain intact, this food is either lost, or it is carried past the place where it is normally digested to be fermented later on by bacteria with the formation of substances irritant to the mucous membrane. It has also been shown that the addition of cellulose to a diet lowers the amount of proteid and starch which would otherwise be absorbed. From all of which it follows that these people should be given a concentrated diet of high caloric value which will tax their weakened powers of digestion as little as possible and leave no bulky residue to irritate the hypersensitive colon. Such a diet must be controlled frequently by the stool examination, and the symptoms, such as flatulence, auto-intoxication, etc., and the relative amounts of starch, meats and fats adjusted to the individual. All vegetables and starches should be cooked very thoroughly, and those, such as beans and peas, which have resistant capsules should be passed through a sieve and puréed.

Contrary to expectation, this diet rarely aggravates constipation and sometimes it even improves matters by relieving spasm due to bulky, irritant masses. It is well, however, to have the patient eat plenty of stewed fruit without skins or seeds.

Stool examination seems to show that the diseased intestine is absolutely unable to deal with poorly chewed food, and many an indigestion can be cured by securing better conditions in the mouth.

Nothing will help the severer enteroptotic cases more than fattening. In such cases we generally give a diet containing 3000 to 5000 calories and a large amount of fat, mainly in the form of cream and butter. It is surprising how little difficulty is met with in giving so much food if it is properly prepared. There is generally some repulsion and disturbance for the first three or four days, but we have not as yet found a case where the diet had to be given up, or where it failed to produce the desired gain in weight. During the first few days the patient should be in bed, as the sagging intestines do their work very much better when they have fallen back into place. This treatment can be carried out best in a hospital, especially for the first week, when the patient must learn how to eat. A woman who has been living on tea and toast is more

than skeptical as to her ability to digest the prescribed diet. Once convinced, she can return to her home with a written list and there keep up the new-formed habits.

The importance of a well-fitted abdominal support is now becoming widely known. The essential point is that the lower abdomen must be lifted up and the upper part must be entirely free. The average well-constructed straight-front corset corresponds pretty well to the needs of these cases. We have seen a number of cases, especially in the clinics, where no corset could be worn until a lacerated perineum was restored to function. There had to be a foundation on which to build.

The practice many surgeons have of "fixing" one or two of the prolapsed organs cannot be too strongly condemned, because it is irrational and does not take into account the condition as a whole. We all know the type of woman who has had her kidneys suspended; she is generally scarred from many operations, each one of which has left her more neurasthenic, and her kidneys are still floating. These remarks apply particularly to the palpable kidneys so frequently found, where there is no danger of Dietl's crises or any such complication. The dependence of these individual ptoses upon the general condition is well shown by the fact that a good corset is more efficient in holding up a floating kidney than the best pad made.

At the same time, the abdominal muscles must be developed by Swedish movements and massage. The patient must learn to sit up in bed from ten to fifty times without the aid of the hands.

The primary asthenia must be kept in mind and these patients must learn to conserve their strength and avoid excessive fatigue in any form. Under the circumstances the prognosis for complete recovery is not good, because the tendency to trouble remains and these people must always be careful, but wonderful relief can generally be obtained through attention to the foregoing principles.

We all see such cases every day, and after a man's attention has been called to these things he wonders how he could have missed them before. These people rarely suffer acutely, and the men particularly may never appeal to their physicians; but nothing can compensate them for the loss of that sense of efficiency and well-being which is one of the main joys of life.

Hope will be held out to them only as we learn to recognize the status enteroptoticus in all its manifestations, and, passing by the apparently isolated disturbances, direct our attention to guarding and strengthening of the vulnerable points in a congenitally weak body.

INTESTINAL INDIGESTION FROM A SURGICAL POINT OF VIEW.*

By RAE SMITH, M. D., Los Angeles.

The subject of intestinal indigestion from a surgical point of view is an extremely elastic one and with its necessary diversions, is entirely too broad to be covered in one short paper. It has been neces-

sary for me first to decide upon an angle of approach and next to decide what must be sacrificed to time limit. I have therefore confined myself to some of the abnormalities of the intestinal tract below the stomach, which medicine alone has failed to cure, and which seem to be coming more and more into the field of surgery.

There are many pathologic conditions in the intestinal tract necessitating surgery, manifested by widely varying symptoms, from the pylorospasm caused by muscular contraction of an obstructed gall bladder or constricted appendix to spasm of the anal sphincter caused by tumor or foreign body; which, however, do not fall within the scope of this discussion. Gall bladder disease may, however, be an important factor in true intestinal indigestion by its frequent association with, and causation of, chronic morbid processes in the pancreas.

Chronic pancreatitis is a very frequent complication of cholelithiasis, especially if the stones be situated in the common duct, and the function of the gland is interfered with, as is also the passage of the pancreatic juice to the duodenum by the inflammation of the head of the pancreas. The common duct in most patients lies imbedded in the pancreatic head for about one-third its length, where it unites with the main pancreatic duct (duct of Wirsung) in the ampulla of Vater. Stone lodged in this outer one-third of the common bile duct will not only cause obstruction of the main pancreatic duct by inflammation and subsequent contraction, but if it be situated at the junction in the ampulla, a direct mechanical obstruction to the flow of pancreatic secretion may also be present. The surgical indication here is removal of the irritating foreign body and the establishment of free drainage of both biliary and pancreatic passages. The ordinary procedure of removing all stones from the common duct, the subsequent passing of a large flexible probe into the duodenum to dilate the constricted lower end, and drainage of both the duct and the gall bladder will effect a symptomatic cure of the pancreatitis.

If, however, the gall bladder and common duct be found to be dilated without stone, permanent instead of temporary drainage must be established for the biliary passages. This is best secured by cholecystenterostomy, implanting the gall bladder in the intestine as high as is mechanically possible, either by mobilizing the duodenum or by bringing over the jejunum as high as possible without kink.

Cholecystectomy should by no means be performed in the presence of pancreatitis, unless the gall bladder be carcinomatous, as the only means of subsequent drainage of the biliary passages will then have been removed.

Realization of the frequent association of gall bladder and pancreatic disease has offered to me the explanation of some early failures to effect a permanent symptomatic cure with simple gall bladder drainage. Had cholecystenterostomy been done instead of cholecystostomy, the drainage would have been permanent and the cure as well. I refer to the cases with the symptom complex of cholecystitis with intestinal indigestion which present at opera-

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tion a gall bladder distended with black, tarry bile and a hard nodular pancreatic head. The gall bladder disease is in this case secondary to the pancreatitis, and if the gall bladder be drained, the bile in a few days becomes clear and is free from microbic contamination and the symptoms of the patient are entirely relieved. However, after the gall bladder fistula has been allowed to close, the symptoms recur and in a few months the patient's condition is the same or worse than before the operation. Pancreatitis having developed, the bile which is normally harmless seems to act as an irritant and increase the pancreatic inflammation, which in turn slows the stream in the bile passages and increases the cholecystitis. At any rate, permanent biliary drainage through the gall bladder into the intestine allows the inflammation in both pancreas and gall bladder to subside, and a cure results where the simple temporary drainage failed.

Chronic partial obstruction of the small intestines, from cicatricial contractions from ulceration, bands and adhesions resulting from peritonitis, local or general, and incarceration in hernias with kinking, may all call for surgical intervention.

Each case must be dealt with according to the conditions presented and the treatment will vary from resection with end to end anastomosis to the simple division of a band or straightening a kink by returning the contents of a hernial sac to the abdomen, always bearing in mind that the gut should be left freely movable and its lumen should not be unduly narrowed. The mobility is the important factor, however, as the fluid state of the small bowel contents allows of a good deal of narrowing without obstruction.

While the symptoms of indigestion of a chronically diseased appendix are usually gastric, still a diseased appendix contributes in many ways to the symptom complex that goes to make the picture of an inflammation, an irritation or an obstruction of the colon,—namely the symptoms dependent upon chronic constipation. The causes of chronic constipation are many and difficult to eradicate; the results are even more numerous and more difficult to bring to a successful termination. The aforesaid appendix may cause colitis by extension of the inflammation of its mucous lining, by the constant emptying of pus into the cecum, or by bands and adhesions it may so bind the caput coli and ascending colon as to cause a stagnation in the fecal stream and so bring about chronic constipation with its resultant colitis from mechanical irritation of the mucous lining of the colon. The end result of this condition may be anything, from a spontaneous cure by absorption and stretching of the adhesions (the offending appendix having been removed) to ulceration, contraction and complete obstruction of the large bowel.

Adhesions not only fix the bowel, but in many instances by their contraction so pull upon some part of it, that a kink results, causing a partial obstruction with its associated constipation and inflammation of the colon. The treatment of this condition must be operative to remove the initial cause of the slowed current and later medical and hy-

gienic to restore the tone to a dilated and inactive large bowel. We meet a difficulty here, however, when the secondary colitis has developed, for then even though the original cause be removed, the catarrhal inflammation of the colon will remain, unless treated thoroughly and persistently. This condition seems to me analogous to that common condition which we have learned to handle rationally and intelligently. A uterus retroflexed or retroverted so that drainage has been interfered with, will develop catarrhal endometritis. That uterus might have been replaced in the early days of its misfortunes without further procedure and a perfect cure result, but after its lining has been damaged, it must be thoroughly renovated within, and start fresh when it is replaced, or our surgical efforts have been only half successful. And as the leucorrhea persists after a simple suspension of the uterus, so the mucous colitis persists after the bands or kinks have been removed.

Thorough lavage of the colon is indicated and the colon tube in many cases proves ineffectual, and here surgery is developing a simple and safe method of through and through drainage to overcome the mechanical difficulties of washing the colon from the lower end. Heretofore appendicostomy has only been used for extreme cases of colitis, usually amebic, and late in the disease, and has been asked to perform the impossible, but like all surgical operations, its real usefulness is earlier in the disease when the patient still has strength enough to recover should the opportunity be offered. Appendicostomy is exceedingly simple and without risk to life. It forms a satisfactory and safe method of enabling the whole colon to be irrigated with any desired solution and at the same time does not leave the patient with any offensive and leaking opening. In performing the operation, and especially in closing the wound, the importance of preserving the blood-supply of the appendix should be borne in mind, as the bad results of this operation have been due in many instances to sloughing of the appendix which is sure to follow interference with its blood supply.

General visceroptosis is a condition which is particularly prone to cause colitis. The transverse colon sags, the fecal current is slowed, and an accumulation occurs at its lowest point; this in turn tends to carry the whole organ lower, and chronic constipation is the inevitable result. Many operations have been performed for the cure of these conditions, some of which are sound though most of them have failed. Resection of the whole colon or prolapsed part with anastomosis of the ileum with the sigmoid cures the colitis and prevents recurrence, but is a prolonged and serious operation which should only be considered in the most extreme cases and after milder measures have failed. Stitching the colon back in place, shortening the gastric hepatic ligaments and all other sewing operations on the supports of the prolapsed colon itself have not been successful except in isolated cases. In visceroptosis the abdominal walls are weak and the muscles have wasted, or the recti have become unduly separated, the result being a general abdominal hernia.

In these cases repair of the recti and restoration of the intra-abdominal pressure will allow the organs to resume their functions and effect symptomatic cure. Normally the intra-abdominal pressure is sufficient to counteract the effects of gravity in the standing position and the pressure on any abdominal organ is practically equal in all directions, so that slight anchoring supports which are provided by the various peritoneal connections are sufficient to retain the various organs in their correct relative positions. When, however, the abdominal walls become lax from any cause, the intra-abdominal pressure is lowered, with the result that organs in the upper part of the abdominal cavity are supported only by their peritoneal connections, which being inadequate soon yield, allowing the organs to prolapse. (Mummery.) In that large number of cases in which the muscles are weak but not separated and the condition does not seem to warrant an operation as serious as a resection of the whole transverse colon, an abdominal binder, to restore intra-abdominal pressure, will, to my mind, be of more service than any of the lesser surgical operations designed to support the prolapsed organs, which may in turn increase the cause of the difficulty by rendering an already atrophied wall still weaker.

Adhesions causing partial or complete occlusion of the bowel, matting together of its coils or fixation of one or more coils, may give rise to almost any chain of abdominal symptoms depending upon the location and the degree of occlusion or fixation they occasion. Laparotomy has been blamed for all abdominal symptoms that may develop ever after its performance, and undoubtedly simple abdominal sections have been followed by troublesome adhesions. However, with modern technic the question of subsequent adhesions may be left entirely out of the consideration of post-operative complications in all cases in which there is not already developed peritonitis either local or general. Adhesions following clean abdominal sections are due to one of five causes:

- 1st. Infection.
- 2nd. Trauma.
- 3rd. Blood left in the peritoneal cavity.
- 4th. Uncovered stumps and raw surfaces.
- 5th. Post-operative position of patients.

All of these are preventable in most instances.

Infection, of course, should not occur unless some pre-existing infection is present, in which case we would not consider the case clean. Traumatism of the peritoneal covering of viscera by the fingers, instruments, retractors or even gauze packs will cause peritoneal irritation and adhesions at those places where abrasions have occurred; a change of position of the patient on the table, and more care in using of retractors and packs will usually obviate the difficulty. Carelessness in allowing blood to flow from the walls into the abdomen and carelessness in removing inevitable blood in the peritoneal cavity, is very prone to be followed by post-operative adhesions. All blood left in the abdomen must first clot and then be absorbed, in the absence of infection; and in the process of absorption there is sufficient fibrin to cause any two surfaces to adhere that may

come in contact with the clot. In the same manner, uncovered stumps will become adherent to anything that may lie against them, and we may have any condition result, from a slight kinking of the intestines to complete obstruction.

Again, an ounce of prevention is worth a pound of cure, and a little more time on the table and a little more care in covering all stumps and raw surfaces with peritoneum will prevent the development of a condition which may or may not be serious.

The post-operative position is to my mind most important and perhaps most neglected by good surgeons. Patients should be allowed to turn from side to side and to sit up from the time they wake from the anesthetic, and not remain flat on their backs for several days, keeping the intestines quiet in the fossa of the back, so that if any blood be left they can become firmly adherent to each other. This is in most cases a matter of incision and sewing up; if each abdominal incision is treated like a hernia and served with the same care as a hernia, the patient runs no risk of a weak wall from change of position, especially if it has been possible to use a muscle splitting incision. We keep patients prone too long and because we are all inclined to hurry in finishing our operations and getting the patient off the table. A few minutes on the table and an abdomen free from adhesions is to my mind far preferable to an operative speed record.

Surgery has advanced past the time when the result was considered good if the patient lived. It is good now only if the patient is well, and patients care very little whether their abdominal pain is due to a chronic appendix or a post-operative adhesion, and they complain, if anything, more of the post-operative conditions than they do of the original ones.

Discussion.

Dr. Dudley Fulton, Los Angeles: I am glad to see this subject discussed, as in my opinion it is one of great importance. I have believed for the last three or four years that the next field of delight for the surgeon was to be the colon, and it seems that the work of Lane and some other English workers has authorized the importance of the colon as a disease-producing factor. Speaking of intestinal indigestion, I think that the majority of the dyspepsias that come to one's office are of intestinal origin. I am sure that I see ten intestinal dyspepsias to one of gastric origin. In analyzing the factors that produce intestinal indigestion, it seems to me that stasis is, from the practical standpoint, the most important, just as in gastric disturbances. We know that so long as the motor powers of the stomach are normal but few symptoms occur from disturbances of secretion, and I think the same is true in the intestinal group. In fact we know very little about intestinal indigestion, and even the use of the Schmidt diet gives but little of practical value. As in stomach conditions, so long as there is normal peristalsis there are but few symptoms from intestinal indigestion. A gastropnoia produces no symptoms in the functions of the stomach unless it interferes with the outlet of food, and I have noticed that the patients with marked disturbance of the intestinal tube nearly always have associated with it constipation or ptosis. In patients suffering from flatulence or intestinal indigestion, if you produce normal peristalsis, the symptoms improve. To cure intestinal indigestion I think that it will be proven in the future that the surgeon must be called in a good deal more frequently than he has been in the

past. Many of the dyspepsias of the intestinal type are intimately due to mechanical factors and can only be cured if the mechanical factors are removed. That involves, of course, the restoration of the abdominal organs to their normal position and the removal of adhesions and the correction of the intra-abdominal pressure. The subject is one of great importance and I do not believe that the profession up to this time has appreciated the frequency and the underlying factors of intestinal dyspepsia.

Dr. W. F. Cheney, San Francisco: I would like particularly to call attention to the point that intestinal indigestion is not an entity—it is simply a group of symptoms usually secondary to some other trouble, and that in treating intestinal indigestion symptomatically, giving drugs, we are not doing any good at all; that in order to do good we must study out carefully what is causing the symptoms. Intestinal indigestion is very largely a patient-made diagnosis. It is a physician's duty to find out where the trouble lies. In the first place, as with the stomach, the source of the indigestion may be entirely outside of the intestine. We all know how frequently a disturbance of the digestion occurs in association with heart disease, with kidney or uremic manifestations. How frequently the trouble is in the liver, due to faulty secretion of the liver, or in the pancreas. All of these conditions give rise to symptoms in the intestinal tract while really the disease lies somewhere else. The question still remains, what is the nature of the trouble even if it is in the intestine? To assume that it is a functional disturbance entirely apart from anatomical changes is often a mistake. We do have an associated pathology in the intestine. There is a large group of cases of enteritis of the moderate type, a moderate degree of inflammation such as proven by stool examination. Frequently the gall bladder and appendix give rise to intestinal digestive symptoms and they will not disappear under any plan of diet or therapy until the appendix is removed or the gall bladder drained. These cases of the appendix do not belong to the frank, sharp attacks, but to low grade, chronic, catarrhal type such as the buried appendix. Then there is the frequency with which a colon affection is the source of indigestion—a sagging of the colon—which can be demonstrated by an X-ray picture of the colon filled with bismuth—a condition otherwise not to be made out. Or a colitis may be the cause of the mucous type of indigestion. An enteroptosis is also another mechanical change and the anatomical picture is very important in intestinal indigestion. Finally there is the presence of parasites—for instance, the discovering of ameba in the stools. The patient comes with a history for months of having had so-called indigestion. The same thing is true with the tapeworm, not so often. We treat the indigestion for a time until finally we or the patient discovers a portion or segments of the tapeworm. In children the presence of ascarides is a well-known cause for intestinal indigestion. The symptoms are all those of indigestion. Nothing does any good until a scientific investigation of the stool discovers the presence of ova. All these conditions are of great importance in the treatment. With regard to the condition of the stomach, I take issue with Dr. Fulton about the relative importance of gastric conditions. I have found more cases where the stomach was at fault. A stomach with hypo-acidity gives rise to a form of intestinal indigestion where the stools show undigested proteids. With hyper-acidity we find a form of intestinal indigestion where the stools show undigested carbohydrates. With regard to treatment, there is the correction of the gastric condition first and after that the intestinal condition subsides. I do agree with Dr. Fulton that the motor power is of a great deal of importance; just as when the stomach has an entire absence of secretion, in achylia gastrica, there are no symptoms until the motor power fails, when we get most severe suffer-

ing. Stool examination is very important. But the whole body must be gone over systematically, the heart, kidneys, abdomen, as well as the stomach and the stool examination. In the examination of the stools we have the key to a great deal of the difficulty as to the determination of the real fault—proteid, carbohydrates or fats. And we have also the determination of some other points—the mucus, pus, blood, parasites or ova. It is only by most careful, systematic investigation that any good can be done. The greatest mistake is to give therapy without knowing what the real trouble is.

Dr. P. K. Brown, San Francisco: I think an exceedingly important point has been covered in the emphasis he placed upon the fact that we cannot get good work out of the intestinal tract if you start the food on its way improperly. If you begin the food properly divided in the mouth and save the motor power of the stomach, the so-called intestinal indigestion will be relieved. If food is retained in the stomach longer than it should be it is no fault of the intestine. The presence in the stools of undigested particles of food is no evidence that they have done any harm in the course of their passage through the intestinal tract. The presence of food that has been too long a time in the tract will do damage and may be considered responsible for certain symptoms, but because cellulose is found in the stool, to attach any importance to it as the cause of intestinal indigestion, is absurd. One has only to regard the condition of food in animals that live on a diet rich in cellulose to realize that in digestion cellulose has no effect upon the condition of the intestinal tract of the animal. I have seen a good many of these stool examinations, but I have failed utterly ever to have found a case where cellulose was found in quantity in the stool where I believed it had anything to do with the symptoms, except where cellulose as well as other products were retained in the tract longer than they ought to be. The decomposition of fats cause about as disturbing symptoms—also the decomposition of proteids—in quite as marked a way. The importance of Dr. Fulton's reference to the correction of mechanical factors, needs to be emphasized. Too many times we treat symptoms without going into the possibilities that may be present in the way of interference with the motor power of both the stomach and intestinal tract. If food is retained in the stomach longer than it ought to be it is bound to throw work on the mechanical conditions of the intestinal tract which is not prepared to carry this out. The fact that simple relief of adhesions has in many cases cured these conditions, is a common experience we must not allow ourselves to overlook. In that sense I do believe in the close relations between physician and surgeon.

Dr. F. M. Pottenger, Los Angeles: Did you ever think how impossible it is to have proper respiration, circulation or digestion, or an evenly balanced nervous system without a normal functioning diaphragm?

Regardless of the importance of the diaphragm I have not seen a single article discussing its action and its relation to these important systems, in our American literature. We hear much about visceroptosis but we only hear one side of it. The causes of visceroptosis, as usually given are of abdominal origin. There are as many causes above the diaphragm as below. We can not have an inflammation in either the lungs or pleura without having a disturbance in the function of the diaphragm. You may not necessarily have a visceroptosis but you have a disturbance which interferes with its proper action and produces some of the same symptoms. One of the early symptoms of tuberculosis of the apex, as shown by Williams, is interference in the motion of the diaphragm. Emphysema, empyema, pleurisy, as well as infiltrations in the lung all cause disturbance in the action of the diaphragm, consequently we may have many

disturbances on the part of the abdominal organs produced by disease above the diaphragm. Williams' phenomenon has been explained by De La Camp as being due to the phrenic nerves being bound down by adhesion at the pulmonary apex. Hofbauer and Holzknecht have suggested that it is caused by a decreased elasticity in that portion of the lung which is involved and a relaxation of the remaining tissue, thus causing a general lessening of the contractile power of the lung as a whole. My recent studies convince me that the phenomenon is of reflex origin. The phrenic nerve is given off from the 3rd and 4th or 4th and 5th cervical roots. This is the portion of the cord which received the impulse from the lungs through the sympathetic nerves; and the limited motion of the diaphragm is accounted for in the same manner as the contraction of the neck and chest muscles as previously described by me, viz: a reflex stimulation, the impulse traveling from the inflamed lung through the sympathetic nerve to the cord, there stimulating the adjacent cells in the same segment of the cord and causing impulses to be sent out through the fibres of the motor nerve or nerves arising in the same segment, to the muscles which cause them to assume a state of tonic contraction.

As a result of disease in the lung we have both a high position of the diaphragm where there is a severe destruction of lung tissue occurring and a low position of the diaphragm where emphysema develops. Following a marked general emphysema the diaphragm is pushed low and the abdominal organs with it, sometimes producing a very marked state of visceroptosis. It is necessary in dealing with visceroptosis to inquire carefully what is occurring above the diaphragm. The symptoms resulting from this disturbed action and displacement of the diaphragm are just the same as those which occur as a result of visceroptosis of abdominal origin. The patient usually tires easily, has more or less rapid pulse especially on exertion, sometimes feels dizzy and usually appears anemic. The anemic appearance of the tuberculous patient has long been recognized. Its true explanation, however, has not been given. It would seem to me that probably the venous congestion and relative arterial anemia, due to interference with the action of the diaphragm, might be a very important factor.

Dr. D'Arcy Power, San Francisco: Every discussion we have on this subject shows how much we are interested in it, how little we are agreed, and most of all how little we know. It is an excellent thing to follow accurate clinical methods as recommended by Dr. Porter and much is gained if knowing the digestive limits we can diet accordingly; but what is much more important is to find means of knowing why these limits exist that the underlying disability may be removed. The physiologist has not yet sufficiently cleared up the chemistry of the intestinal tract, and until he collaborates with the clinician he is not likely to do so. What is the chemistry of idiosyncracies? Why do onions poison me and strawberries my neighbor? There can be no rational progress until we have more physiologic knowledge.

Dr. T. W. Huntington, San Francisco: Very many wise and unwise things are being said about intestinal indigestion. Many and various opinions have been expressed upon this subject and so far as I am concerned, the term intestinal indigestion "gets on my nerves." The time seems to have passed when we should talk about nervous headache and many other conditions which are merely symptoms, and I see no reason why intestinal indigestion should not be included in this category. Intestinal indigestion is to be regarded in a general way as symptomatic with a definite cause back of it; that is as voicing some condition which is clearly a pathological entity which underlies the disturbance under consideration. If we look carefully into the individual case, we shall almost universally find a lesion or lesions which underlie the faults in digestion and

which do not proceed from so-called intestinal indigestion. It happens, not infrequently, that a diseased appendix, obscure in itself, which attracts no definite attention to itself, because of its influence in inhibiting the peristaltic wave, thereby interrupting the bowel current, gives rise to an intestinal disturbance which treated never so well, will persist until the cause is removed. In my experience, it has happened several times that children of capable physicians have suffered from so-called intestinal indigestion for years, but the real cause was discovered by an acute attack of appendicitis. The same holds true in the case of individuals who suffer from post-operative bowel adhesions or adhesions from previous inflammatory causes. In a word, in my opinion, every case of intestinal indigestion should be subjected to the most careful scrutiny to the end that obstructive lesions may be discovered and, if possible, corrected.

Dr. Fitch C. E. Mattison, Pasadena: Dr. Pottenger wants to claim that everything above the diaphragm controls the organs below. This is very natural for Dr. Pottenger to think, as we are all prone to lean towards our specialty. The insurgents seem to have full sway to-day. Very little has been said as to the effect of vaso-motor insufficiency, but great attention has been paid to this by some of the newer cults and "isms." We hear a great deal about mechanical therapeutics at the present day, and the regular profession have been paying too little attention to the effects of the vaso-motor nerve. We must sooner or later recognize the fact that there is a great deal in mechanical therapeutics. For centuries massage and the manipulation of the body has been looked upon as one of the most remedial agencies, and we find that in enteroptosis and gastropptosis, massage and properly fitting corsets stimulate the circulation of the vaso-motor nerve, and I believe the matter of mechanical therapeutics of the spinal nerve is worthy of scientific investigation. Mechanical therapeutics has been taken up very largely in the past, outside of the medical profession, and I believe they are getting good results among some of their patients who require that line of treatment. If there is anything wrong about this system, it is the application of mechanical therapeutics, in cases where it is not indicated. To my mind, the time has come when the medical profession should investigate the scientific application of mechanical therapeutics in the cure of disease. It certainly is about time for us to open our eyes and find out whether there is anything in it, and the sooner we do it, the sooner this class of treatment will be put upon a scientific basis.

Dr. E. C. Fleischner, San Francisco: I am exceedingly sorry that Dr. Porter is not here to close the discussion of his paper for two reasons. In the first place because I feel that he could discuss it with very much more acumen than I, and in the second place because it would have given me the privilege of having discussed the subject from the floor rather than as the reader of the paper. The presentation of a general subject of this sort has a very decided disadvantage. Limited by time, one is forced to present only certain phases of the problem in question. In his enthusiasm over that portion of the work in which he is particularly interested, in order to impress his ideas upon his hearers, the writer lays special stress upon certain elements of the subject. In the discussion that follows, those of you whose ideas are somewhat different, to offset what you think would be over enthusiasm, take the opposite view and the pendulum is swung so completely to the other side that the effect is practically always to lose track of the particular point that the writer has been trying to make. I know that Dr. Porter in writing this paper realized perfectly well that there were cases in which mechanical causes were responsible for the symptoms, but his object in presenting the paper was to call atten-

tion to the importance of stool examination in cases of indigestion in infants and young children.

I grant what Dr. Power has to say that there may be some underlying condition responsible for these forms of fat and starch indigestion, but unfortunately, at the present time we have no method of determining the function of the pancreas except by an examination of the stools. Granting that we are about to remove the symptoms in cases excreting large quantities of free fat and free starch in the stools, by removing these articles of diet from the food we are justified in assuming that the excess of fat and starch is responsible for the symptoms. The cases that have been presented are ample justification that it is possible to cure many of these patients without making an incision into the abdomen. One thing I want to impress particularly upon you, and that is, given a child with intestinal symptoms by a very simple method of examining the stools the cause of the trouble can often be found and after its removal the patient will be cured.

Dr. W. C. Alvarez, San Francisco: Some interesting physiologic work has recently been done which bears on this subject. Dogs in which 50-70% of the small intestine had been excised held their weight on a carbohydrate diet which they digested perfectly. Their proteid digestion was practically normal but fats were almost entirely rejected. After excluding the pancreatic juice from the intestine by means of fistulae, dogs were able to digest at least one-half of their usual ration of meat, carbohydrate and fat. The highly efficient compensatory mechanism revealed by these studies should make us more careful in saying that certain intestinal indigestions originate in the stomach or pancreas. As to the relation between the appendix and mucous colitis, I think we see far more cases where a normal appendix is sacrificed to a mistaken diagnosis than where colitis is due to chronic appendicitis. All operations have a bad psychic effect on these people and we should use such measures only when strongly indicated. They improve for awhile but unless they fatten up and get stronger they always relapse. In reply to the doubts of Dr. Brown, I will say that practically all the evidence at our disposal points to the fact that not only is cellulose difficult of digestion per se, but it interferes markedly with the assimilation of other foodstuffs. Routine stool examinations will soon convince anyone of the importance of cellulose indigestion. Again in closing we would emphasize the need for treating these patients as a whole. Recognize the predisposition, which cannot be removed entirely; examine the patient thoroughly to see what factors predominate in that particular case, and above all, avoid the narrow view that picks out an appendix, a ptotic stomach or a palpable kidney as the root of all evil and the only point for therapeutic attack.

REPORT OF A CASE OF CARCINOMA OF THE EYELID.

BY HUGO A. KIEFER, M. D., Los Angeles.

The patient, C. T. C., male, age 50 years, presented himself January 11, 1910, with an "ulceration" of the left lower eyelid which he had been unable to heal by the application of numerous salves and washes that had been prescribed for it.

The condition commenced a year and a half previously as a "little, sore swelling with pus in it," on the skin surface over the tarsal plate, which he squeezed out, and after that it always remained open and would crust over and have a little secretion at all times. In spite of treatment it kept growing in all directions, and at the time he consulted me it involved the middle two-fourths of the lid for 15 m. m., extending from the conjunctiva downwards over the lid margin and skin surface for 8 m. m.

The lid presented the condition of ectropion, its margin in the affected area was entirely eaten away.

eyelashes all gone, and the whole ulcerated surface was covered with a thin, brown crust, through which a slight amount of lymph-like secretion exuded. No swelling of the glands was to be found anywhere, but the lower palpebral conjunctiva was considerably swollen throughout the extent of the lid, especially toward the outer canthus.

The previous history apparently had no bearing on the case. The patient said he had "granulated lids" when a youth, and they became cured by the copper fumes with which he came constantly in contact while working in a mine. No history of malignant growths of any kind in the family. A microscopic examination of the exudate for tubercle bacilli proved negative. The diagnosis rested between carcinoma and chalazion.

Operation under a general anesthetic, January 14th. Upon removal of the crust there presented a bluish-red, soft, granular mass, bleeding freely to the touch, and covered with a scant, thin, sanious pus. The ulceration had extended over the lid margin and just invaded the conjunctiva. The margins of the ulcer were well marked, slightly thickened, fairly regular and smooth, and not undermined. A few atrophic fibres represented the remains of the orbicularis muscle; but the tarsal plate seemed to be unaffected. This entire diseased area was removed with knife, scissors and curette, including about 4 m. m. of skin and conjunctiva in all directions beyond the line of demarcation. At the outer canthus, the conjunctiva presented a marked swelling about 5 by 10 m. m., but this was left untouched. After curetting, the entire denuded area was swabbed with a three per cent. chlorid of zinc solution, and a dry, boric acid dressing applied. After the first day it was dressed daily with an ointment of zinc sulphate one grain and boric acid fifteen grains to the ounce of vaseline. Healing progressed rapidly, and on January 29th the patient was discharged, the entire affected area being epithelialized, and all infiltrations and thickening beyond the line of operation having disappeared.

Two specimens were taken at the time of the operation, each including some of the ulcerated tissue and some of the healthy tissue beyond, and submitted to Dr. Stanley P. Black, who reported them to be carcinoma.

December 21st, 1910, the patient returned. The entire field that had been operated on January 14th, 1910, presented a perfectly healthy appearance, with no scarring, and only such deformity as was due to a destruction of the lid margin and loss of the lashes before the operation, and a slight ectropion. But 2 m. m. beyond the periphery of the operated area, toward the external canthus, there was a prominent swelling 4 m. m. in diameter, involving the skin and conjunctival surface of the lower lid. The growth was slightly redder than the surrounding tissue, granular in appearance, contained rather large capillary vessels, was covered with smooth conjunctiva and skin, free from pain, and had not yet shown any signs of ulceration. Its first appearance dated back to about November 21st, 1910. No signs of any glandular enlargements were found.

December 28th, 1910, the patient was given a general anesthetic, and the tumor was removed by the knife, including 2 m. m. of skin and conjunctiva in what was apparently healthy tissue beyond it. The raw surface was cauterized with a 10 per cent. silver nitrate. Thereafter nothing but plain boric acid solution was used in the dressing.

Healing was very prompt, and to the present time there have been no further recurrences.

The terms skin-cancer, epithelioma and rodent-ulcer are usually indifferently applied to carcinoma of the eyelids, though some authorities do try to differentiate between epithelioma and rodent-ulcer. For the sake of comparison I have placed the clinical manifestations as described by different authors

in parallel columns. This comparison does not represent any attempt on the part of the writer himself to differentiate between the two, but is only an expression of the opinion of others.

Epithelioma.

Usually arises from mucocutaneous junctions.
First appears as a wart, a fissure, or a nodule.

When ulcerated the edges are undermined.

Some claim that the neighboring lymphatics are always involved sooner or later, others that they are seldom involved.

Early tendency to involve only superficial structures.

Slight burning, itching or stabbing pain early in disease, and severe pain later.

Appears after age of 40 years.

Progress slow.
Death by exhaustion or hemorrhage.

Rodent Ulcer.

Usually arises from the skin surface.

First appears as a dark nodule with a depressed center.

When ulcerated the edges are undermined.

Does not involve lymphatics.

Early tendency to invade the deeper structures.

Very little pain.

Appears after age of 40 years.

Progress slow.
Death by exhaustion, or by destruction of deep structures.

There are some points in common that practically all observers are agreed on, viz., that carcinoma of the eyelid is a disease that appears after middle life; it commences usually at the lid margin or on the skin surface near the margin, and occasionally on the mucous surface near the lid margin; enlarged lymphatic glands, especially pre-auricular, are sometimes found; the condition, which consists of epithelial processes and nests, with small round-cell infiltration in and about the growth, may remain quiescent for years, or its destructive tendencies may be manifest almost from the beginning; metastasis is apt to occur; the etiology is not known. It may be confused with chancre, with molluscum contagiosum, with lupus, or with a broken down chalazion. Chancre need not long remain in doubt if one watches for other manifestations of syphilis and uses the therapeutic tests. Lupus occurs more commonly in childhood; it leaves decided scarring, and is very apt to be found in other localities. Molluscum usually presents greater elevation, has a smooth surface, is more acute in its course, and is often multiple. Chalazion usually breaks through the mucous surface of the lid, while carcinoma more often attacks the skin surface.

The treatment is quite varied. While at the present time resort is probably most often had to the knife and curette, and the X-ray, very good results have been obtained with caustics, such as nitric or chromic acid, saturated solution of chloracetic acid, saturated solution of chlorate of potash, or the actual cautery. In using chemical caustics, one should protect the field outside of the area to be acted on, by the application of vaseline, and after the desired amount of cauterization has been attained the drug should be neutralized or washed away. Repeated cauterizations are usually necessary. For very small carcinomata the X-ray probably affords the nicest method of treatment, though it is not always successful, and resort has to be had to other methods. It should be applied for five or ten minutes, two or three times a week, the light being passed through an aperture in a sheet of lead protective. The use of radium bromide, applied by fastening a tube of the material over the growth for a few minutes at a time every week or two,

has also been reported on quite favorably. For large growths, no doubt, excision and curettement, followed by caustics or the actual cautery, or by the X-ray, will prove the most efficient.

DERMATITIS VENENATA FROM PROPRIETARY HAIR DYE.

By ERNEST DWIGHT CHIPMAN, M. D., San Francisco.

The frequent occurrence of a certain form of dermatitis having special characteristics and due to the use of a proprietary hair dye seems to call for further comment even though similar cases have been previously reported.

The fact that within a few months the writer has met with six cases of severe dermatitis of more or less extensive distribution, the reaction in each instance following the use of "Mrs. Potter's Walnut Tint Hair Stain," leads to the belief that this particular nostrum is especially noxious and that the relation between its employment and subsequent inflammations of the skin often passes unnoticed.

In cases previously reported this dermatitis is spoken of as resulting from the use of "Mrs. Potter's Walnut Juice Hair Stain." This slight difference in nomenclature is mentioned as indicating only approximate designation on the part of earlier reporters or, what is more likely, a change in the name of the hair dye "for trade reasons." At any rate, "Mrs. Potter's Walnut Juice Hair Stain" was found by the North Dakota Agricultural Experiment Station to depend "for its action on paraphenylene diamine, a substance which when oxidized by means of a solution of hydrogen dioxid becomes an intense black."¹

The "Mrs. Potter's Walnut Tint Hair Stain" which has preceded the dermatitis in our cases has been apparently of this nature for it comes in two bottles, one of which appears to be hydrogen dioxid. The results of its employment also correspond very closely with the accounts of poisoning by paraphenylene diamine published by Mewborn in 1901.²

One primary difficulty in the diagnosis of dermatitis from hair dye is the fact that the patient volunteers no information concerning the use of such a substance. In the nature of things it is more or less a secret. Aside from this the reaction often occurs several days or even weeks, after the last application of the dye and the patient does not suspect the dye to be the exciting cause of the trouble.

The chemical process, as stated by Mewborn, involves the production of quinone, C₆H₄O₂, by the union of a solution of the hydrochlorate of paraphenylene diamine with oxygenated water. This gives off very irritating vapors at ordinary temperatures. Mechanically the spread of the irritating substance is facilitated by the common custom of women combing their hair forward and downward over the face.

Special factors are possibly first, the existence of an idiosyncrasy for the substance—the behavior and spread of the inflammation resembles somewhat the dermatitis from poison oak—and second, the character of the soil, as it were, upon which it develops. In our most recent case, the eruption showed marked predilection for those portions of the face which seborrhea preferentially affects.

Clinically the eruption begins as an erythema varying doubtless with the resistance of the skin as well as the strength and frequency of the application. Following the erythema, an edema of the skin is observed, and later a desquamation which is proportionate to the intensity of the original erythema.

The outbreak may be diffuse from the beginning or it may originate in discrete patches which later coalesce. There is a definite tendency to spread and the inflammation starting on the face and forehead may extend downward over neck, shoulders, arms and chest.

Objectively the process often has a mildly inflammatory or subacute appearance which is remarkably out of proportion to the subjective symptoms. The patients invariably complain bitterly of burning, itching and a feeling of extreme tension in the skin. In some instances the scalp is only slightly, if at all, involved, which is not particularly to be wondered at as that region is much more tolerant than other parts.

Concerning the spread of the dermatitis, it must be remembered that the direct irritant is a vapor and as already suggested, this vapor is easily communicated directly from the hair to the face, neck, shoulders and adjacent parts. Whether or not this explanation suffices in those cases of more widespread distribution is a question. It is possible that the quinone, the substance from which the irritating vapors emanate, is itself transferred from the hair to the neighboring parts by the hands, clothing, etc., as in the case of poison ivy and similar poisonous plants. Such transference seems much more plausible than the explanation on such grounds as nervous erythism or absorption suggested by Mewborn.

There is apparently little tendency to spontaneous cure, the reason for which lies in the fact that the poisonous vapors are given off gradually and persistently from the hair.

Complications of various nature may supervene, a fact which is illustrated by the occurrence in one of our cases of a carbuncle which for a time, made the case one involving a question of life and death.

The diagnosis of this particular form of dermatitis is naturally easy when the history is complete. In any form of dermatitis careful search for the particular irritant is presupposed.

In the writer's experience no one sign is so significant as the great disparity between the objective signs and the subjective symptoms. All of the six cases referred to here occurred in middle aged or elderly women. A glimpse at the scalp often reveals the fact that the hairs for a fraction of an inch at the proximal ends are of a different tint from the remaining portions. In the early stages the possible mistake is erythematous eczema, in which case the foregoing facts are sufficient for a differentiation. Severe forms may bear a slight resemblance to erysipelas, but marked constitutional disturbances are wanting. In some cases, owing to the distribution over scalp and face, seborrheic dermatitis is suggested. The latter rarely gives rise to such severe subjective symptoms.

Any dermatitis of the scalp and face, especially in middle aged women, should excite suspicion and

call for scrutiny of the scalp as well as careful enquiry concerning the use of hair dyes.

The treatment is first of all to discontinue the use of the hair dye. Next in order is the removal of what irritating substance remains on the hair by thorough washings. In doing this we have found it useful to advise careful protection of the inflamed skin by a protective paste during the process. Externally the calamin and zinc lotion, while giving great relief, takes second place to applications of Lassar's paste containing one to two per cent. of phenol. The protection afforded by such a paste seems to fulfill the paramount indication. Internally a saline at the outset and bromides as indicated are the remedies most often of service.

It would be interesting to learn of some substance chemically antagonistic to quinone.

References.

- (1)—Editorial, *Journal A. M. A.*, Sept. 4, 1909.
- (2)—Mewborn, *Journal A. M. A.*, May 18, 1901.

REPORT OF A CASE OF PERFORATED DUODENAL ULCER, OPERATED UPON 55 HOURS AFTER PERFORATION, COMPLICATED BY DOUBLE PLEURO-PNEUMONIA.*

By L. W. ALLEN, M. D., San Francisco.

The history of this case which was referred to me by Dr. Torello was as follows: Miss G., age 21, well nourished, but somewhat anemic.

Family history. Negative as to its relation to the present illness.

Previous history. Usual diseases of childhood. Stomach trouble for the past year. Has had pain in stomach after almost every meal—not immediately—usually one-half to one hour after. No pain before meals. For past month or two has had pain like intercostal neuralgia around both sides of the chest, low down, and through to the back; intermittent and at times very distressing. No vomiting, or eructations. Appetite always good. Never noticed her stools.

Present illness. Began Jan. 12, 1910, at 4 p. m. with severe pain in the abdomen and a fainting spell. Patient was put to bed. Pulse rapid. Temperature normal. Pain in the abdomen persisted and was not relieved by opiates. Jan. 13th, pain still severe, but complained more of it in cervical region of the back. Mustard leaves applied with no relief. Abdomen not distended. Pulse rapid but temperature normal. Jan. 14th, the patient was seen in the morning and the pain being still unrelieved another injection of morphin was given. In the afternoon the abdomen had become distended, the patient's general condition was observed to be much worse and a consultation was called. When seen at 9:30 p. m. the abdomen was greatly distended and tympanitic; liver dullness obliterated; muscles rigid and tender. Respirations short and rapid—facies anxious. Pulse, 140, small but regular. Temp., 100°. A diagnosis of perforated duodenal ulcer was made and the patient sent to St. Luke's Hospital, arriving there at 11 p. m. Ether anesthesia was given immediately. Incision made slightly to the right of median line below free border of ribs. On opening the peritoneum large amount of gas escaped followed by serous and then by purulent fluid. The least possible investigation was done as the patient was in extremis. Superficial search was made for the perforation, but only a yellow fibrinous exudate was seen about the duodenum and to this point a rubber drainage tube and a gauze wick drain were carried. Another gauze wick drain was inserted along the outer side of the duodenum down into the

* Read before the San Francisco County Medical Society, May, 1910.

cul-de-sac below the liver. A counter opening was made above the pubis, followed by the escape of a large amount of purulent fluid. Rubber tubing and gauze wick drains were also inserted here. No irrigation. No sponging. The angles of the wounds were drawn together with through and through silk worm gut sutures. The entire operation occupied but ten or fifteen minutes. Subcutaneous salt infusion was given during the operation.

The patient was placed in Fowler's position and proctolysis by the Murphy method begun immediately. The patient recovered rapidly from the anesthetic.

Jan. 15. Patient's general condition improved. Pain had disappeared. Pulse, 130-140. Temp., 98° to 100°. Resp., 36-44. Drainage profuse. Leukocyte count, 20,000.

Jan. 16. Drainage subsiding; pulse good, 126-130. Respirations labored, 32-38; face cyanotic. Friction rub over right lower side. Subcrepitant rales over left base. Oxygen begun. Quinin, grs. 45, given by rectum. Nutritive enemata started. Cracked ice by mouth allowed. Bowels moved voluntarily.

Jan. 17. Patient's general condition improved; cyanosis disappeared. Respirations easier; pulse good. Abdominal distention only moderate. Drainage tubes removed as profuse discharge had ceased. Leukocyte count, 14,000.

Jan. 18. Food in form of panopepton first given. Pulse dropped to 104; resp., 32; temp., 99°-101.4°.

Jan. 20. Patient became more restless. Coughed considerably. Abdomen more distended. Pulse increased to 116; resp., 32; temp. to 102°. Oxygen inhalations and caffeine hypodermically.

Jan. 21. Examination of patient's heart and lungs by Dr. H. P. Hill showed consolidation of both bases with small amount of fluid in lower part of pleural cavities. Heart enlarged and loud systolic murmur over apex. Sputum revealed diplococci in abundance. Abdominal condition doing well except slight tenderness and rigidity noticed to outer side of both recti opposite umbilicus.

Jan. 24. Patient's general condition seemed better, but dullness to percussion over the tender areas in abdomen became apparent. Lung signs remained about the same although the embarrassment in breathing was improved while taking oxygen.

Jan. 28. General condition seemed weaker. Pulse, 96-102. Resp., 30-36. Temp., 100-102. Complaining of pain in right side of abdomen. Area of dullness and tenderness in both sides of abdomen increasing. Leukocyte count, 16,500.

Jan. 30. Examination of chest showed both lungs consolidated at base with a flat note on right side to angle of scapula. Heart enlarged and a loud systolic murmur heard at apex. Right pleura aspirated, a few ounces of cloudy fluid removed. The examination of this fluid was as follows: sero-fibrinous tinged with blood; sp. gr.-1.010, neutral to litmus, albumen 20%. Microscopically, many w. b. c. and r. b. c., polys—80, small 12, large 8. Gram's stain, occasional Gram's and diplococci—no other bacterium seen. Diagnosis—Inflammatory exudate—bacteria, Fraenkel's pneumococcus.

The abdominal condition revealed the presence of two circumscribed abscesses and the necessity of draining them. The patient was taken to the operating room, given a spinal injection of tropococain and the two large abscesses incised and drained—the one on the right side drained in the lumbar region as well as anteriorly. Smears from this pus showed pneumococci predominating in a mixed infection. Cultures gave pure pneumococci.

From this time on the patient's general condition decidedly improved although the temperature still occasionally ran up to 102°. Her heart retracted in size, the apical murmur diminished, the pulse remained between 90 and 110. The lungs cleared but slowly, with evidence of fluid on the right side when she left the hospital. The secondary abscesses closed rapidly, the drainage tubes, being early re-

moved. She left the hospital on the 36th day. The duodenal condition has apparently been entirely relieved as she had no return of the former distress. Dr. Torello reports that shortly after leaving the hospital she had a recrudescence of her pneumonic infection with a typical drop in temperature at the end of a week.

In considering the fortunate outcome of this case, stress should be laid upon the importance of only doing what is absolutely necessary to relieve the immediate dangers to the patient and doing it as quickly and with as little trauma as possible. These cases of duodenal ulcers, perforating as they do in more or less confined space, need only direct drainage to the outside. Too much manipulation in searching for and attempting to close a perforation, will usually cause the loss of a patient. In a series of 38 cases recently published where the advice was given to suture the perforation, not one case was saved, operated upon at a longer time after perforation than 16 hours.

The purpose of reporting this interesting case is to draw attention to the fact, generally overlooked by writers upon this subject, that simple drainage to the point of rupture is all that is necessary for a permanent cure; that breaking away adhesions to see and suture the perforation may add just enough shock to change a favorable to an unfavorable termination.

Discussion.

Dr. Dudley Tait: I have listened very attentively to the reading of Dr. Allen's paper and fail to see the point which prompted its presentation. Surely it cannot be the question of diagnosis, either clinical or anatomical, for nothing worthy of being called a clinical history was given, and it is explicitly stated that no special attempt was made to locate the presumed perforation. In this regard the finding of "some lymph on the posterior wall of the duodenum" seems rather remarkable. Could the object be to emphasize the use of gauze for the drainage of the peritoneal cavity, a mistake sometimes made even at this late date? Surely the writer's purpose was not to preach the doctrine of operative conservatism in acute diffuse infections of the peritoneal cavity, for no sane surgeon would dream of advocating radical surgery, i. e., opening up of new avenues of infection and multiplying the element of shock in such an extensive acute peritoneal suppuration as the one reported by Dr. Allen.

If the object of the paper relates to the mode of anesthesia, I must confess that the picture of the administration of ether to a septic patient in extremis for an abdominal section, and the subsequent subjection of this patient to spinal anesthesia merely to drain two abscesses causes me to shudder.

In closing the discussion I hope Dr. Allen will speak further on the exploration of the posterior wall of the duodenum, and tell us more anent the advantages of the rectal route for the administration of quinin in the treatment of general infections.

Dr. E. N. Torello: One thing which impressed me was the great resistance of this patient and I think that the general practitioners should learn a lesson from cases of this character as so little attention is paid to stomach troubles. Less doctoring with pepsins and other remedies for the usual complaints and keener observations of stomach troubles would perhaps result in less perforated duodenal ulcers.

Dr. L. S. Mace: In view of the fact that secondary infections by the pneumococcus so frequently follow pneumonia of the lungs I think that the supposition that this was probably a pneumococcus peritonitis should be considered. Statistics show that operation and drainage result in a cure in secondary pneumococcus peritonitis in about 80%, whereas unoperated they all die.

Dr. G. K. Herzog: In connection with the bac-

teriological side of the case presented by Dr. Allen I wish to mention a case six weeks ago which I diagnosed as a perforated appendix and advised operation, which was done at the German Hospital. A culture was made of the pus and showed a pure culture of pneumococcus. There was a local abscess which was drained and within three weeks it closed. At the end of two weeks, following a slight rise of temperature and pain in the rectum, a localized abscess was found at the anus. Examination showed that this was a pneumococcus infection, both times the cultures were examined by Dr. Ophuls.

Dr. A. Miles Taylor: I would like to say one word with regard to drainage. I believe that Dr. Allen said that he made a counter opening above the pubis and put in a drain. Would it not have been better if he had made the drainage through the posterior cul-de-sac and drained in that way? I have had one or two cases where in opening up the duodenum and making drainage I found it better to drain in that manner.

Dr. Allen in closing: There can be no doubt in the mind of any unprejudiced person, who has listened carefully to the subjective and objective clinical findings in this case, as to the correctness of the diagnosis; the character of the stomach trouble, the obliteration of the liver dullness, the escape of gas on opening the abdomen, etc. The purpose of the paper, as stated above, is to insist on not allowing an over enthusiastic scientific spirit for completing a diagnosis by hunting for a perforation in the duodenum when the patient is in extremis. I believe the pneumococci were present here as a correlative agent, not a causative one.

THE MODERN MILK FEEDING STATION FOR INFANTS; CLINICAL RESULTS.*

By P. V. K. JOHNSON, M. D. and PHILIP S. CHANCELLOR, M. D.

Hundreds and thousands of infants die each year and thousands could have been saved if they had received proper care and food. One-fifth of all the deaths in the United States are infants under one year old. The rate is excessive, unnecessary and preventable.

The modern milk station is one of the great movements helping to reduce infant mortality.

Many large cities abroad and in this country now have well organized systems of milk stations which supply pure fresh milk to the infants of the poor and needy. The two milk stations in Los Angeles, at Vignes street and at the Los Angeles Department, College of Medicine, University of California, started by Dr. Chancellor and myself, are the first in the State of California. There is also one at the Pasadena Hospital.

The methods of all are practically the same. Our aim is to encourage mothers to nurse their babies and to impress upon them the importance of nature's method of feeding. Nursing mothers who are poorly nourished and underfed receive assistance by being given extra food and this is a sine qua non factor in combating infant mortality.

To give those infants who need it, fresh, clean milk modified to suit each individual case.

To teach mothers the hygienic and general care of themselves and their babies, including care of their breasts, how and when to feed, care of nipples, bottles and milk. And this can only be accomplished by personal instruction and by the follow up work of the district nurse. It is useless, both

in point of time and expense incurred, to try to reach this class of people through tracts or essays. The vast majority of these do not read or reading do not understand, and still worse may wrongly interpret and badly apply written instructions. Education through such channels is worse than useless. One has to come in personal contact and teach by example. The poor learn their lessons by hearing and seeing.

This is the work that this station does. We teach the young mothers the most essential things in the care of their infants,—by personal precept and by subsequent supervision of the district nurse.

The history, physical examination, weight and milk formula of each patient is carefully recorded. After this is done the nurse makes up the formula as the physician has ordered and each case is supplied with a holder containing the necessary number of feedings for the next twenty-four hours.

The nurse, who is most essential, after making up the formulas and sterilizing the bottles for the next day, begins the follow up work. This consists of visiting the homes of the patients to see if the physician's orders are being carried out, to instruct and help the mothers and see if the baby is doing well, and to make a report of each case visited which is handed to the physician next day.

If the modification given agrees as shown by the daily report of the nurse the mother need only return the empty bottles for refilling, a record of which is kept in the milk station along with the written report of the nurse.

There is a nominal charge for the milk of two cents per nursing bottle with a maximum charge of eight cents per day. About 90% of the patients receive their milk free. The district nurse investigates the circumstances of the infant's parents and reports whether they are able to pay or not.

The infants are weighed once a week, the smaller and more delicate ones twice a week.

Sick children are not taken, being referred to the dispensaries and hospitals.

The Bethlehem Mission very generously gave us two rooms, water, gas and heat for our Vignes street station and the Medical school equipped the station at the Graves Memorial Dispensary.

Mr. Robbins, the owner of the Arden dairy, has most generously come to our aid in regard to the milk. We are using raw fresh cow's milk unpasteurized and unsterilized. This is certified milk containing $3\frac{3}{4}$ to $4\frac{1}{4}$ butter fat and reaches the milk station about six or seven hours after milking in capped and sealed glass bottles, iced. This milk comes from a T. B. tested herd and is under control of the Milk Commission. It is the only certified milk in Southern California and the bacterial count is less than 1000 per c.c. At present we are using over 400 quarts of this milk per month and giving out over 1800 bottles of modified milk.

Mrs. Weston, the superintendent of the district nursing work, has greatly helped the work by giving us a nurse who looks after both stations, and does the follow up work.

By good food and good care we hope to do our share in saving the little ones.

* Read at the Forty-first Annual Meeting, State Medical Society, Santa Barbara, April, 1911.

Discussion.

Dr. E. C. Fleischner: This subject is one of utmost importance both for its educational value to the doctor and patients and for its object in conserving infant life. Only those of you who have worked among people of the lower classes can appreciate the difficulties entailed in endeavoring to teach the ignorant methods of cleanliness. Notwithstanding the fact that we teach them to take care of the milk and keep it cool, the constant influence in their homes tends to do away with the effects we are trying to produce. I feel that Dr. Johnson and Dr. Chancellor are to be commended because they are working among a class of people in whom cleanliness is a thing apart. It requires constant effort to make the people not only follow directions but to make them enthuse over what one is trying to do.

In San Francisco we have adopted another method for conserving infant life which is much easier. All of the foundlings of San Francisco are now boarded out in families and one would be surprised to see the type of women who are willing to take these babies for \$10.00 a month.

During the last year of the existence of the San Francisco foundling asylum the mortality rate was 59 per cent., and this is no more appalling than what is frequently found in institutions of this sort. During the first year of the boarding out system, when the babies received no medical supervision and were fed all kinds of food, the mortality was reduced to 12 per cent. They were then put upon certified milk and the mortality was reduced to 8½ per cent. There were 13 deaths during the first year of this regime, 7 of which were from tuberculosis in one form or another. During the past 6 months there have been 3 deaths and not one was from tuberculosis.

I have been criticised for my enthusiasm over the effects of certified milk, but I wish to call attention to the fact that we have practically succeeded in freeing these children from tuberculosis by changing their environment and feeding them pure milk.

The whole thing is an educational problem. Dr. Johnson and Dr. Chancellor are to be congratulated upon their efforts and should receive the support of everyone who is able to give them any.

PREVENTION OF POST OBSTETRICAL LESIONS.*

By DAVID HADDEN, M. D., Oakland.

When one realizes the large proportion of cases of subinvolution, laceration of the cervix, injuries to the vaginal outlet, retrodisplacements and prolapse of the uterus that are found in ordinary gynecological practice, and that these are all the results of child bearing, the question naturally arises as to whether or not it is possible to prevent many of these menaces to the woman's health by more careful attention during the confinement and the puerperium. Probably 75 per cent. of the cases of gynecology that come to the general practitioner, and even to the specialist, present the aftermath of child bearing, and seldom are these pathological changes of the type that remain stationary, but instead are those that grow progressively more severe and thus in time put the woman into a condition needing not one minor operation, but a series of operations.

A large proportion of these secondary conditions are preventable and many a woman has to go to the operating table who might have been saved the ordeal had she had a little more attention at the

labor and during the three or four months following. Nor is it always the physician's fault that the patient escapes his observation too soon, for the public has not yet learned the wisdom of prevention.

A prominent general practitioner in discussing perineal repair at a society meeting made the statement that he never allowed any degree of tear to go unrepaired, for he did not intend that any woman whom he confined could be told that she needed a perineorrhaphy, and that is the feeling and practice of all conscientious obstetricians, and yet when a patient who has a relaxed vaginal outlet is told that she has to have a repair she invariably tells you that her doctor sewed her up when the baby came and also how many stitches were taken. But this only goes to show that a large percentage of repairs in recent tears result in failure and unless the attendant can recognize early the cases of failure the patient gets out of his hands with a false sense of security as to her good condition.

Lacerations of the cervix are even more frequent than perineal injuries. Some men write of physiologic lacerations of the cervix. The text book advice is to leave cervical injuries alone unless the need of controlling hemorrhage arises. The difficulty of the work, the increased risk of infection, the rapid involution of the tissues in the first days which tends to leave the stitches too slack to approximate the torn edges, and finally the fact that the majority of tears heal kindly without intervention give us the authority for this stand. However, a large number of cervical tears do not thus heal by first intention and the formation of scar tissue, with or without the turning out of the cervical mucous membrane, gives rise to the secondary symptoms. There can be no doubt that many miscarriages are due to the persisting deep clefts in the cervical tissue, even when not associated with the usual endocervicitis, which alone is enough to prevent pregnancy or favor miscarriage.

In all cases of severe laceration of the cervix, with or without bleeding, a careful repair does not add to the risk of infection if the asepsis is good, in fact, closing in the raw areas will lessen the risk of auto infection. Using a Graves' operating speculum, grasping the cervical lips with two double volsellum forceps, it is possible to readily locate the torn edges and by traction downward facilitate the introduction of the sutures. Sutures of silk worm gut or silver wire, which do not stretch or swell and leave no foreign culture medium in the tissues, are best suited to this particular need, and these should be tied not so tightly as to strangle the tissues, but tight enough to hold the parts in approximation even after the uterus has undergone its rapid preliminary involution. The results in many cases will be as perfect as a later Emmet operation.

Besides repairing the cervix, if torn, we can do much to prevent the occurrence of the injury by avoiding the too early application of forceps as well as their careless or improper use, and sometimes by manual dilatation. The tear many times occurs, not with the passage of the head, but of the shoul-

* Read at the Forty-first Annual Meeting of the State Society, Santa Barbara, April, 1911.

ders, and of course there one can do little to prevent. Later on another factor favoring the persistence of cervical clefts will be considered.

We can do more to prevent the injuries to the perineum. Manual stretching carefully done; holding back a too rapidly advancing head during pains and encouraging delivery between as suggested by Edgar; using the forceps judiciously for the same purpose, will in many cases save the perineum by allowing a gradual dilatation. The shoulders will often produce an injury, however, that we have prevented while the head was passing. When a perineum has been torn it should always be repaired immediately unless the condition of the patient absolutely forbids, for a perineum left even a few hours does not give as good a result without great care in its correction on account of the retraction of the injured muscles involved.

Lately, due to the rather large proportion of unsatisfactory results with the use of the interrupted suture, I have been applying the continuous mattress suture of silk worm gut advocated by Dr. Geo. B. Somers of San Francisco in secondary perineorrhaphies. Using a small curved Hagedorn needle while the edges of the tear are being retracted with volsellum forceps, introducing the needle deeply in a lateral direction, one can approximate the divided perineal body and prevent the retraction of the torn musculature. While this type of suture is much harder to use in these immediate repairs than the interrupted on account of the rapid swelling of the parts and the quantity of obscuring blood, the advantages gained and the much more satisfactory results make the extra care well worth while.

The continuous suture does not constrict the circulation as does the interrupted. It approximates the perineal body throughout its entire depth and after the edema and swelling have subsided there is no slack on the sutures, or if there is it can be taken up by pressing the tissue back along the stitch. If interrupted sutures are used, we will find after the swelling has subsided that the swollen tissue in the grasp of the suture has been partially cut through and that the stitch is too loose to give a perfect approximation and so the fluids can percolate and prevent perfect primary union. Again, if by any chance infection of the perineum has occurred, the insoluble continuous suture acts as a drain and whatever swelling takes place can be accommodated on the untied sutures without any cutting through of the tissues, so that the results are good, which would be impossible if the repair had been done with either absorbable or nonabsorbable interrupted stitches.

Sometimes the rectal sphincter is injured and overlooked on account of the difficulty of thorough inspection. But that is not of such vital importance if we succeed in getting a good perineal body by primary union. It is not the severance of the sphincter muscle fiber that is of such moment, for that is often done intentionally in fistula operations without bad effect, but it is the poor perineal results with the retraction of the muscle layers and thus the lack of anterior anchorage that allows

the retraction and atrophy of the rectal sphincter. So even if there is a failure to unite the torn sphincter if we do succeed in getting a normal perineum the sphincter will not lose its function.

The usual treatment of the parturient woman has kept her firmly bandaged lying on her back. During the first twenty-four hours after confinement a snugly fitting binder with a firm pad so placed as to keep the fundus against the pubes favors the contraction of the uterus and the prevention of hemorrhage. After the danger of relaxation has passed anything but a loose binder is not only useless but may be injurious. A firm binder has little or no value in favoring the popular desire for "shape"—a muscle done up in a splint gains nothing in strength, but judicious use of the abdominal muscles is what brings back tone to the stretched anterior wall. A firm binder does harm by forcing the uterus into the pelvis and thus stretching the lower uterine supports, or if the supports are resistant it tends to evert the injured cervical lips and prevent primary union. It seems reasonable to lay the persistence of many a cervical injury to pressure thus applied, and the same applies in a lesser degree to the perineum.

The injurious effects do not stop here, however, for the pressure combined with too prolonged dorsal decubitus favors the sinking of the uterus in the pelvis and thus its retrodisplacement with a permanent elongation of the ligaments.

The keeping of the patient on her back even in extensive repairs of the perineum is by no means essential though the drag on the stitches prevents any but the prone posture during the first week. Tying together of the knees, as often practiced, is also unnecessary in repair with continuous suture. The separation of the knees after the patient has recovered from the anesthetic, if given, will never be excessive enough to injure a properly repaired perineum; the sense of soreness is alone sufficient to prevent too much separation. I can understand how the turning of the patient voluntarily may put a strain on a repaired perineum causing an interrupted suture repair to be injured by the pull of the muscle, within the ligature grasp, cutting through. With the continuous suture the grasp of the stitch extends throughout the whole muscle and the likelihood of such injury is remote, while the advantages gained by getting the patient off her back are much more vital, for thus we prevent the sagging of the pelvic structures. In women who have no perineal injuries the early use of the sitting posture so as to prevent this sagging and favor drainage is of value.

The after treatment for a perineal repair should consist of the lysol pitcher douche which is sufficient for cleanliness, and the use of sponges unless most carefully done is better avoided. The lysol solution washes away the blood and mucous and so is better than solutions of the nature of bichloride, which coagulate secretions.

Complete involution in no case takes place under six weeks, and in some women the return to normal may not be completed for several months and until involution is complete and completed with

the uterus in normal position, we in justice to our patients and ourselves, should not permit them to pass out of our care. In many cases the patient may leave her bed in practically normal condition, but a week or so later on examination we may find a retrodisplaced uterus. If this malposition is allowed to persist we soon get a beginning prolapse not only of the uterus but of the vaginal walls, with a stretching out of any new formed cervical scar or poorly repaired perineum. Gradually a rectocele and cystocele occur, and thus is laid the condition necessitating future operative work. If, however, we replace promptly such a displaced uterus and retain it in position with a pessary, in the majority of cases with the involution of the pelvic structures a permanent cure results and the vaginal fascias and a weak perineum gain surprisingly in tone, and gives us comparatively good results.

The cases of delayed involution can be greatly benefited by a well placed depleting tampon of elastic composition, not the incapsulated proprietary variety which are impossible to place to advantage, nor a tampon so large or firmly packed that it acts as a piston when it comes to withdrawal. This, combined with the long hot dorsal douche to deplete the circulation, will hasten the involution, thus avoiding the dragging of the heavy uterus on the relaxed ligaments and weakened perineal supports.

Discussion.

Dr. G. E. Abbott, Pasadena: We should regard lacerations of the cervix as of as much importance as those of the perineum. The obstetrician should feel his responsibility and strive to prevent them, just as much as in preventing lacerations of the perineum. For they are in great measure preventable. The patient should be cautioned not to bear down during the first stage, but to let nature do her work quietly so as to prevent rupturing the bag of waters early, and also so as not to rupture the attenuated cervix during the passage of the presenting part through it. As to lacerations of the perineum, I would like to report one case which I had not long ago, in which the lacerated perineum did not unite well. Perhaps some of you have had the stitches all slough out, as I had in this case, not because of faulty technic, but because of the condition of the patient. The stitches were removed, perineal wound cleansed of pus and sponge grafts placed on the neurotic surface. In three days the entire surface was one mass of perfectly healthful, bleeding granulations with practically no pus. Fresh stitches were introduced and complete union "by first intention" resulted. I would like to add that it is an easy matter to take almost any neurotic surface, an old ulcer of the leg, for instance, which has been discharging for months and sometimes for years, and by means of the sponge grafts in three or four days have the whole surface changed into a healthy, bleeding granulated surface, which can then be skin grafted if flat or opposed by stitches if deep and a primary union secured.

Dr. O. O. Withersbee, Los Angeles: My work has not been such in recent years as to give much experience along these lines. My observations in reference to women following the birth of children who have had no support or abdominal binder, have shown that those women lose their natural contour. I believe the muscles have been well used throughout the period of pregnancy and that a rest after it is over is not out of place, and with rest and proper support we can bring the contour of the body to the customary outline and the muscles will retract. As to the perineum, I believe that many times the

vaginal muscles are ruptured and the mucous membrane is not. I think that many of these cases are scrutinized by the physician and he decides there is no injury of the perineum, and afterward some other physician finds the vaginal wall greatly relaxed. The muscle is really ruptured and the integument is not.

Dr. D. Hadden, closing discussion: There are undoubtedly a great many cases where you will get an injury of the mucous membrane and those that the doctor should diagnose before the patient gets out of his hands. I think that a binder not too strongly applied will favor retraction of the fascia and there are those cases, too, where we have a separation of the recti muscles where the binder is very useful. Of course, the binder will not give us a good result in every case.

BORDER LINE CASES, OF EAR DISEASE.

P. A. JORDAN, M. D., San Jose, Cal.

The purpose of this paper is to deal with such cases of ear diseases as most often come under the care of the general practitioner. And it is hoped that some useful suggestions may be made relative to their more proper treatment, coming from one who makes a specialty of these cases. My remarks will contain no spirit of criticism but the best interests of the patient will ever be uppermost.

Some General Considerations: The ear, being very sensitive, should be handled with gentleness and delicacy. Its examination should be made with care. The speculum should be warmed before inserting it. If the cotton applicator is to be used, it should be wrapped well around the tip and held between the thumb and fingers so that it would slip through the fingers should the patient jerk his head, instead of through the membrana tympani.

One of the most common ailments of a special character appearing in the practice of all physicians is that of impacted cerumen. Such condition causes discomfort in the ear, ranging all the way from fullness or muffling of sound to almost total deafness, sometimes causing much pain. This may occur in children but most often in adults. It is caused by picking the ears and causing small masses of wax to fall back into the ear; by wiping out the ear with the corner of a towel rolled into a spiral, thus forcing the wax backward; by an irregular canal; or by the presence of a foreign body in the canal. As a case of the latter, I would mention a man of thirty-five years who came into my office nine years ago, complaining of partial deafness in one ear. Examination showed the external canal to be completely filled with impacted cerumen. Irrigation with warm water containing bicarbonate of soda, five per cent., in a short time removed all the wax apparently but one hard, black, dried piece in the very bottom of the external canal. More careful examination showed this to be a hard substance and on extraction with alligator forceps proved to be a black beetle lying flat against the membrana tympani, dead for many, many months. This beetle had undoubtedly brought about the conditions favoring the formation of the ceruminous plug. The pathological condition having once begun, the mass continues to grow in size.

The ceruminous glands manufacture wax and pour it out on the lining of the external canal; layer after layer is formed, each forcing the preceding layer toward the center in concentric layers, until

only a pin hole lumen remains. Until this time, the patient has remained in ignorance of this enormous mass in his ear. Now, occasion for picking the ear presents, or perchance, a drop of water closes up the lumen, and suddenly, he is deaf in the ear and greatly alarmed. He quickly seeks his physician, who, if he is skilled in the handling of such an unfortunate person, prepares plenty of warm sterile water and dissolves in the water 5% bicarbonate of soda. Gentle or somewhat forcible irrigation with such solution will, in the course of five to thirty minutes, remove almost any cerumen plug. From time to time, during the irrigation, under good illumination with speculum carefully inserted, the presenting portion of the plug may be loosened with a spud or dull probe, thus favoring the dislodgment or melting of portions of the foreign body. Should the plug be so very dry and hard as to resist careful irrigation, it may prove wise to desist further washing and put the plug to soak for twenty-four hours in the following solution: Either 20% glycerin in sterile water or 10% carbolic acid in glycerin with one dram of alcohol added to each ounce, may be instilled into this ear in ten drop doses every three or four hours. This will soften the cerumen plug and it may easily be washed out at the next sitting. Until the membrana tympani is clearly seen, until the malleus is clearly visible, perhaps reddened by trauma, until no speck of wax or other foreign substance can be found in the canal or upon the membrana tympani, until all this has been accomplished, the physician has not completed his task. And at this juncture, let me relate some experiences which have come under my observation, pertaining to cases not properly treated.

Some weeks ago, an adult male of some thirty years came into my office saying that he failed to hear clearly with his right ear; further adding that a month preceding he had visited a physician who had removed the wax from his ear but for some reason the ear was still deficient in hearing. Upon examination, I found the external canal largely filled with dry, hard, clotted blood due to trauma in the attempt at removal of the impacted cerumen some weeks before. Further than this, I could not see until after irrigation. After carefully irrigating the ear with warm sterile sodium bicarbonate solution, thus removing the desiccated blood clot, I was further able to see a considerable mass of dry impacted wax in the lower third of the canal driven hard against the membrana tympani, thus interfering with the function of the ear and causing sensations of pressure and pain. Further simple irrigation removed the remaining wax, giving the patient immediate relief and restoring his hearing to normal.

Another case is that of a girl, twelve years of age, who came under my observation four years ago, complaining of partial deafness and bringing the story of having had wax removed from her ears. Examination disclosed the fact that the lower third of the ear was still laden with the wax which presented a light gray color, due to the soaking with water. Simple continued irrigation easily removed the remaining foreign body. Many similar experiences might be mentioned.

A very common practice among physicians which I wish to absolutely condemn is that of putting oil of one form or another into the ears of patients. This is chemically incorrect and only adds to existing troubles. Not once in five hundred cases in my own practice do I deem it wise to use oil of any form in an ear. As for instilling oil for the softening of wax, there is no foundation of truth in the theory that it will soften the impacted cerumen, or if, perchance, it may soften it a little, its activity is very inferior to the use of glycerin and water for the same purpose. I would like to suggest that for all common cases, sweet oil, vaselin, olive oil and all other fats, be not used in the ear of a patient, but instead a little plain water and glycerin; and lastly, having softened and removed the wax, the entire canal should be carefully inspected; the membrana tympani should be carefully read and interpreted, and, unless this is done accurately, the best interests of the patient have not been met.

Acute Catarrhal Otitis Media. Inasmuch as 13% of all ear diseases are caused by acute catarrhal otitis media, we deem it wise to give this disease a few moments' consideration.

Etiology. The causes of this disease are numerous.

First, exciting causes, or pathogenic microorganisms. The exact relation of microorganisms to inflammation of the middle ear is not fully understood. They may be found in healthy ears. We well know that the various infectious fevers, as scarlet fever, measles and diphtheria are often accompanied by acute catarrhal otitis media, and we are all, unfortunately, too familiar with the dire results to the ears following these diseases. Among the microorganisms found causing this disease, may be mentioned, the diplococcus pneumoniae and streptococcus pyogenes; the staphylococcus pyogenes aureus and albus, and bacillus pyocyaneus.

These and other microorganisms may be found in the tympanic cavity without exciting inflammation. It is necessary that the conditions favoring inflammation should be brought about before these organisms begin their pathologic activity. Nearly always, these microorganisms gain entrance to the tympanic cavity through the Eustachian tube, though they may gain entrance by way of the blood vessels or they may gain entrance to the middle ear from perforation of the drum head by trauma.

As some of the external causes may be mentioned, exposure to weather, causing change of blood pressure; the presence of adenoids is a most common cause; chronic rhinitis, or any obstructive disease of the nasal cavity; diving and gulping down water, thus forcing some of it into one or both Eustachian tubes and thus directly driving infective material into the tympanic cavity. But, as the most common cause of all, I wish to lay especial stress upon the presence of adenoid vegetations; as almost one-third of all children have adenoids, we may readily see a good reason for such frequent ear diseases among children of tender years. Inasmuch as adenoid vegetations are almost sure to press upon the external or pharyngeal opening of the Eustachian tube,

thus forbidding ready equalization of air pressure, we can readily understand how pathological changes of the middle ear may commonly occur among children. And thus has come about the unfortunate belief among mothers, neighbors, and, sad to relate, some family physicians, that a discharging ear in a child is a matter of minor importance belonging to the ailments of childhood which the child is carefully expected to outgrow. As further nasal causes of acute catarrhal otitis media may be mentioned such inflammatory diseases as acute rhinitis, acute pharyngitis, and catarrhal and suppurative sinusitis.

The inflammatory process may reach the middle ear by continuity of structure or directly through the Eustachian tube or through the blood and lymph channels. Adenoids also influence the inflammatory changes in the middle ear by causing closure of the Eustachian tube which closes off the air in the middle ear from the external world; the oxygen in the middle ear is soon absorbed, thus causing a partial vacuum which allows tissue changes in the middle ear favoring the activity of otherwise harmless bacteria. Enlarged tonsils also favor closure of the Eustachian tubes because of their pressure against the posterior pillars. The posterior pillar embraces the palato-pharyngeus muscle, which has some influence in controlling the patency of the Eustachian tube. It is thus apparent that when the tonsil is large and diseased, the pillars are congested and their muscular fibers undergo degeneration and atrophy, and thus the function of the Eustachian tube is impaired.

General Symptoms. Acute catarrhal otitis media is usually due to bacterial infection gaining entrance through the Eustachian tube. The exudate may be simple or purulent. In simple catarrhal inflammation, the drum head rarely ever perforates but if the exudate is purulent, rupture generally occurs at the point of greatest bulging. Pain of varying degrees, from mild to that causing almost delirium may be present and usually progresses until the pressure from within the tympanic cavity is relieved. This relief may come from the fluid escaping through the Eustachian tube into the throat but more often the pain is relieved from rupture of the membrana tympani. The temperature of the patient may range from 99° to 103° and 104°. Prostration is in proportion to pain and height of fever, often added to by long duration of suffering before rupture occurs. Infants are prone to have acute otitis and oftentimes are treated for colic of varying types when their restlessness and crying comes from a swollen tympanic cavity.

The diagnosis of acute catarrhal otitis media may readily be made by considering the pain, temperature, deafness, partial or almost total of the patient and on inspection, finding a swollen, much reddened, inflamed, and probably bulging membrana tympani.

The treatment of this condition concerns this paper most. How often is the patient given some oily mixture with instructions to instill this into the ear every one or two hours, warmed, to be sure, the heat of which gives some comfort to the patient and from the heat alone does he derive the least benefit. Again, the patient is given laudanum to

drop into the ear, or is told to hold against the side of his head, a pack of hot salt, or again, a poultice is ordered applied to the ear and again, poor sufferer, some midwife or old lady of the neighborhood orders the heart of an onion heated and packed tight into the external canal. All these and many other foolish forms of treatment add to the long list of our cases of chronic suppurative otitis media, many complicated with mastoiditis and brain abscesses. The tympanum once inflamed, and filled with purulent material, continues to be filled tighter and tighter, each one of the millions of microorganisms multiplying its kind with wonderful rapidity. A pus factory has been instituted and it is manufacturing a great amount of material notwithstanding the fact that its room for work is limited on all sides. Being thus limited, the germs crowd into every direction following the course of least resistance, thus the membrana tympani is sent bulging outward into the external canal, the mastoid antrum is filled with pus by way of the iter ad antrum. If, perchance, the membrana tympani withstands the pressure long enough, many of the mastoid cells are crowded full of this poisonous secretion; thus pressure goes on, germs forming their kind by the millions until finally the membrana tympani, at its weakest, most bulging point, gives way, the patient at this juncture feels a sudden pang of pain, caused by the rupture of the membrana and almost as quickly, realizes a great sense of relief from the escape of serum and pus from the middle ear into the external canal. But why should the patient have suffered all these long agonizing hours, anywhere from twelve to forty-eight? A torn, ragged-edged, ruptured membrana tympani is very much harder for nature to heal than a small incision through this membrane would have been. Further, the disease having lasted long enough to rupture the membrana tympani, has extended many times farther into the recesses of the middle ear and the mastoid cells than it would have extended had the membrana tympani been incised earlier in the disease.

It is here, I wish to enter a strong plea against the delay of paracentesis in acute otitis media. If every case of acute otitis media coming under the care of a physician, at an early date, were furnished with a neatly performed paracentesis, followed by aseptic treatment, a large majority of our chronic cases with their attendant disasters would be averted. A paracentesis should be performed as early as a diagnosis of fluid pressure in the middle ear can be made. This may be made from the history of grumbling, pain, some temperature, dullness of hearing and direct inspection of the membrana tympani, which will be found of an angry red color, instead of its pearly gray normal color. The paracentesis should be made at the point of greatest bulging or in the posterior inferior quadrant, if choice may be had, thus allowing an early escape of secretion in the middle ear before the bacteria have had time to multiply their numbers and to press their way into so large a field of activity.

Thus the disease has been cut short in its extent, the opening in the membrana tympani is small, its edges are neat and even and will readily heal after the escape of all the secretion. As a cut with a

knife or scissors in a garment is more easily repaired than a large tear or perforation by thrusting some irregular object through said garment, so is the membrana tympani more easily repaired after a paracentesis than after a rupture from internal pressure.

I would not be understood to advocate the paracentesis of every inflamed membrana tympani and it may often be found advisable to use antiphlogistic measures. Where such is the case, I have often found of greatest use, the following prescription:

Carbolic acid	gr.	48
Alcohol	dram	1
Glycerin	dram	7

Of this mixture, ten to fifteen drops warmed may be instilled into the ear every three or four hours, held in place by a small plug of cotton.

Further, in chosen cases, direct inflation through the eustachian tube may give instantaneous relief, bringing about a cure without further intervention. Where paracentesis has been performed, the external meatus should be maintained in as nearly an aseptic condition as possible. Often have I been called to the bedside of a child crying with great pain from an acute otitis media. The child usually has slept little or none for twelve to twenty-four hours, is highly nervous, has a fever of 101° to 103° usually, and shows in its face the ravages of pain and lack of rest, and as often have I examined the ears and quickly done a paracentesis in the posterior inferior quadrant; usually there is a momentary sweep of added pain from the small surgical procedure and then comes a sense of relief, and often, in twenty to thirty minutes, the child has fallen asleep following the escape of a pressing secretion, and has slept many hours in sweet rest and peace.

My plea again is for early paracentesis in acute catarrhal conditions of the ear. Again, I say that were this properly done in all suitable cases, that the number of chronic suppurative ears with their malodorous discharges and with their accompaniment of unnecessary mastoiditis, and with their further complications of brain abscesses, would be largely and forever reduced.

I believe that nearly one-third of all our children have adenoid vegetations, most of these accompanied by enlarged tonsils. Adenoid growths nearly always interfere with patency of the eustachian tubes, thus causing partial deafness, and further on, with slight provocation, such as acquiring an acute inflammation of the nose or throat, very often causing acute otitis media. A large percentage of acute otitis media is caused either from negligence on the part of the parents or improper treatment often given by physicians and thus becomes chronic catarrhal otitis media. The latter disease may run on for an indefinite number of years, ranging from five to thirty years. In this diseased condition, the membrana tympani is lost, the ossicles have necrosed and disappeared, the hearing is largely defective and the discharge may become at times very offensive. The patient is subject at any moment, during these years of chronic suppuration, to acute mastoiditis, demanding immediate surgical intervention, or often his condition is made worse by the formation of a

cranial abscess. As mastoid operations sometimes end fatally and are always undesirable, and as brain abscesses are more often fatal, and as these owe their beginning almost entirely to an acute otitis media, let me again urge a very careful attention and proper surgical treatment in all cases of acute otitis media.

THE SIGNIFICANCE AND TREATMENT OF ABDOMINAL PAIN.*

By C. P. THOMAS, M. D., Los Angeles.

It is the purpose of this paper to briefly lay down a few rules which may enable us to make an early and reasonably clear diagnosis in intra-peritoneal troubles, before the disease is so far advanced that the proof of the diagnostic correctness must be found at post mortem.

I am convinced that many of the new and ultra-scientific methods of diagnosis, while reasonably reliable in the hands of the few, are not so in the hands of the many, and their attempted use by the latter is but little short of criminal, since the delay and unreliableness incident thereto, result in perfectly curable conditions becoming incurable. No attempt therefore will be made at this time to describe other than the more simple diagnostic methods.

Pain in the abdomen serves the same purpose to the surgeon that the buoy at anchor does to the sailor, warning him of existing danger and it should no more be removed without knowing its cause and significance than should the buoy, leaving undisturbed the danger place it marks. It might also be compared to the sound of distant thunder which of itself is free from danger but warns us of the approaching storm.

We may with safety say that all acute, serious intra-abdominal troubles begin with pain, and when the attack is primary, it will usually be referred first to the solar plexus, from which all the intra-peritoneal organs chiefly receive their nerve supply. It, however, soon locates itself in the affected region, and by careful observation of both the location and variety of the pain, we are able with reasonable certainty, in most instances, to determine its cause; and when such cause is determined early, its removal is usually comparatively easy.

It may require a little courage when called to the bedside of a patient in great pain, to sit calmly down and proceed to locate its variety and origin, instead of immediately administering a dose of morphin for its relief, but that, nevertheless, is our plain duty.

By calmly and firmly quieting the anxiety of the patient and sympathizing friends, it is far easier, then, to get an accurate history of the origin of the trouble, than later, particularly if in the meantime the senses of the patient have been benumbed by an opiate.

That pain is often forgotten, or at least in so far as pertains to its severity, may be easily demonstrated by talking to the mother of several children, who will almost invariably describe the pain of her last labor, if at all recent, as being the most severe.

* Read at the Forty-first Annual Meeting of the State Society, Santa Barbara, April, 1911.

She will also declare during labor that she will never under any circumstances give birth to another child; but in a few years she will be found as anxious as ever to repeat that which she had so earnestly declared should never again occur.

While this may be a wise provision of Nature, and as it should be, it often prevents the surgeon obtaining a reliable history of the location and character of the pain both of this and former attacks.

The average layman describes all pain occurring between the pubes and ensiform cartilage as being in the stomach, and since, as suggested before, the solar plexus, from which all intra-peritoneal organs largely receive their nerve supply, is located just below and posterior to the stomach, we must expect the first pain of infection, or injury to any of these organs, to be first referred to that region.

Careful examination of the patient, however, even early in the attack, will nearly always show increased tenderness and rigidity over the seat of the trouble.

There are three chief sources of abdominal pain, pelvic, appendiceal and gastro-hepatic. In women the pelvic region is the most common source, but pains originating there are more or less distinct in character, and with careful history-taking and bi-manual examination, we are able to discover its cause, or at least enough evidence to warrant us in advising for or against exploration, and in either event giving the proper treatment.

Pains in the pelvis are more easily located by the patient, because it receives its nerve supply chiefly from the hypogastric plexus and except in the case of ruptured tubal pregnancy, often originate and remain there, not being referred much to the stomach region. In tubal abortion the pain is nearly always first referred to the region of the stomach, but there is usually the history of one or more missed, or partially missed, menstrual periods, followed later by uterine hemorrhage and passage of membrane resembling a miscarriage. If the pregnancy is not far advanced and the tube not yet ruptured, bi-manually we will feel a well defined boggy tubal mass, with but little tenderness, and usually confined to one side only.

If rupture has taken place, there will be general abdominal distention, and a feeling of fullness, on vaginal examination, all around the uterus, which organ will be freely movable, except for the general increased intra-abdominal pressure.

These patients show acute anemia, shock and exhaustion, from which apparent recovery may take place only to be followed in a short time by another and more severe attack, finally terminating either in death or in the large so-called pelvic hematoma. We also expect to find the temperature at first either normal or sub-normal.

In inflammatory conditions of the uterine adnexa, at first we have an elevation of temperature with its characteristic septic variations, soon followed by fixation in some degree of the uterus and adnexa, with great tenderness, usually, on both sides of the uterus or in the cul-de-sac. If the attack is primary, there will be a definite causative history; such as gonorrhea, abortion, or instrumentation,

either self-inflicted, or otherwise; idiopathic pelvic peritonitis probably never occurring.

It is the writer's belief that ruptured extra-uterine pregnancy, should always be treated surgically, as soon as it is discovered, supplemented, if necessary, by immediate direct transfusion of blood. I have seen one such patient die on the table while transfusion was being done before operation, more blood escaping into the abdominal cavity than was being received. Operation should precede transfusion, and if done quickly, patients even in extremis usually recover.

The treatment of acute pelvic infection is one upon which we might write volumes. It is my belief that when pus is present better end results are obtained, fewer permanent adhesions left, less mutilation and loss of important structures result, if it is properly and early treated by abdominal section. Drainage, when used, should be through a small stab wound, well away from the incision, a loosely packed, spirally-cut rubber tube being introduced through the small incision to the depth of the pelvis. Vaginal drainage, when the abdomen is opened above, is unnecessary and unwise, intra-abdominal pressure being sufficient to empty the cavity through an abdominal wall stab wound.

The pulse rate will usually be high in both pelvic infection and ruptured tubal pregnancy, but will be much weaker when due to hemorrhage than early in sepsis.

The pain of renal colic is usually lancinating, sudden of onset, and causes localized pain in the region of the affected kidney from the start, with shooting pains down the ureter into the leg or genital organs, with no abdominal tenderness, distention or constipation; while urinary symptoms, such as bloody urine or frequency of urination, with irritation of the urinary tract, soon appear. The X-Ray, segregation, and ureteral catheterization are most valuable diagnostic adjuncts, and surgery, our most reliable recourse for treatment.

Appendicular pain is of several varieties, controlled largely by the extent and kind of infection, also by the number of attacks the patient has had. When seen early in the first attack, if it is at all severe, the pain will be referred, as above suggested, to the navel region, radiating therefrom in every direction, finally settling down into its own region after the infection has to some extent passed through the coats of the appendix and involved the parietal peritoneum, which membrane receives its nerve supply from the spinal nerves, instead of the solar plexus.

The pulse rate and temperature will be increased and after twenty-four hours, if the attack is severe, will often be intermittent. There will be abdominal distention, vomiting, tenderness on pressure, great restlessness, obstipation in over eighty per cent. of cases, and the face will have the characteristic frightened expression. There will also be increased right rectus rigidity with localized tenderness, if general peritonitis is not already present.

Sudden cessation of pain and temperature during a severe attack of appendicitis, without corresponding reduction of the heart's action, is a bad omen, and usually indicates perforation of the appendix,

and then if the inflammatory process is not circumscribed, death ensues, while the friends are expecting an early recovery.

If the patient has suffered repeated attacks, the pain and tenderness will be more or less localized in the region of the appendix from the beginning. The tendency of appendicular pains once localized, is to finally remain stationary, or radiate downward or backward; while gall-bladder and stomach pains after localizing, either remain stationary in their regions, or radiate upward towards the shoulder blades.

The writer believes in early surgical treatment of appendicitis to the exclusion of all other methods, if it can be done in a hospital with a good technic, and by a good surgeon; otherwise the Ochsner treatment, in its fullest detail, should be given.

The gastro-hepatic region is one that in recent years has attracted surgeons more than formerly, largely because with improved technic we are able to relieve and often cure diseases arising there which were only a short time ago considered incurable, or at least attempts at cure by operation were so dangerous that they were not advised.

Pain in the stomach proper is generally due to ulcer, cancer, reflex pyloric spasm, or stenosis; many such cases being diagnosed gastritis, gastralgia, etc. Hyperchlorhydria, with its characteristic symptoms, generally means gastric or duodenal ulcer, or pyloric spasm from appendix, gall-bladder, or other intraperitoneal troubles.

Most patients with conditions of the stomach producing pain will try a long course of medical treatment, but a majority of them will finally have to resort to surgery for relief.

Acute obstruction of any of the ducts of the liver, produces pain, whether due to stone, stricture, mucus plug, or acute inflammation; when due to the latter, if of the ascending variety, the onset is slow and the pain is not so violent, and vomiting is a prominent symptom; if descending, it is accompanied by chills and fever, but the pain is not so lancinating in character as when due to stone.

When the obstruction is due to pressure from without, especially from malignant growth with jaundice, it is nearly always painless. Painless jaundice, except the hematogenous variety or when due to yellow atrophy of the liver, particularly if the patient has passed the age of forty, is, almost without exception, due to malignancy.

In gall-bladder colic, if the onset of pain is violent and not accompanied by fever and jaundice, especially if the disease has not existed long, the cause is generally stone, which is probably high in the cystic duct. The same rule applies to the common duct, except that we will have jaundice with chills and fever if the attack is protracted, due to the fact that the common and lower part of the cystic duct is well supplied with lymphatics, which absorb infectious materials; while the gall-bladder proper contains but few, if any, lymphatics.

When inflammatory obstruction of the duct occurs there is more local tenderness on pressure. Chills and fever are present, and the patient is much more ill than when the obstructive attack

comes from stones, unless the stone produces complete obstruction and continues long enough to cause gangrene. Continuous gall-stone colic for over twenty-four hours usually means gangrene.

The treatment of cholecystitis, with or without stones, is surgical. Thorough examination for duct stones should always be made, and ample drainage provided, for the cure of the gall-bladder and ducts, and the pancreatitis, which so often accompanies it.

The pain from gastric ulcer is usually aggravated at once by eating; but when due to duodenal ulcer it comes on from one and one-half to three hours after eating, when the stomach is discharging its contents over the ulcer; either condition may be relieved by emptying the stomach, which is not the rule in hepatic colic. Severe vomiting may, however, relieve gall-stone colic, because of the general relaxation incident thereto, releasing the stone, permitting it to fall back into the gall-bladder, or distended portion of the duct.

Blood in connection with stomach symptoms is not a sure sign for or against either stomach or duodenal ulcer; but when seen in the vomitus, is more an indication of stomach ulcer. When it is passed by the bowel alone, it points to duodenal ulcer. Hemotomesis, however, may be present when the ulcer is below the pyloric ring. Numerous cases of ulcer, even with resulting pyloric stricture, have no definite history of bleeding. It is my belief, formed upon close observation of numerous cases, that chronic gall-bladder disease, by disturbing normal stomach secretions, tends to cause gastric ulcers.

When pressure from tumor or malignancy causes obstruction of any of the hollow viscera, there will usually be felt on palpation a well defined mass, and in such cases, the onset is usually more gradual. Many of these cases may be relieved and even cured by early surgery.

Dr. Henry Herbert, of Los Angeles, reports, that in a number of cases of rheumatic polyarthritis he has found pain in the tendon attachments of the abdominal muscles to the ilium, Poupart's ligament and pubes, also epigastric pain due to rheumatic arthritis of the costo-sternal junction on either side. This pain may simulate intra-peritoneal troubles, but the tenderness in such will be more marked at the aponeurotic attachment of the muscles, than in their centers. A careful history-taking of the cases of abdominal pain when first seen, will usually bring out a definite line of symptoms, from which we may with reasonable certainty conclude that the pain is due either to mechanical or inflammatory obstruction of some of the hollow viscera, and with further searching and by a process of elimination, we can reach the conclusion as to which one is obstructed, whether complete or partial, and outline the proper treatment of the same. If the obstruction is mechanical and below the pylorus in the alimentary canal the stethoscope is of valuable assistance in diagnosis.

The belching, water-brashed, sour-stomached cases, which continue for long periods, and have large splashy stomachs, are not usually due primarily to ulcers or their sequence, although ulcer may develop later, but instead are usually due to

pylorospasm from gall-stones, appendicitis, or some other intra-abdominal trouble. The proper treatment of such cases is to first remove the cause by operation then follow with proper dieting and medicine. Operations on the stomach proper, except for removing an ulcer or hour-glass contraction, have but little value unless the pylorus or duodenum is actually or nearly closed, and a simple retention test meal will permit us to confirm or disprove the diagnosis of stenosis.

While gastrojejunostomy is no longer a difficult procedure and is one of the best surgical operations we have, it is seldom indicated except for stenosis, and when done for relief of stomach symptoms of a neurasthenic, the neurasthenia is usually increased instead of benefited. The same rule applies to Finney's operation.

I do not believe the new opening ever closes, as we so often hear, in a well-done gastrojejunostomy, simply because the pylorus is patulous, having disproved this theory many times; but, inasmuch as the symptoms complained of were not due to obstruction and retention, no relief is obtained.

The writer believes that many chronic sour-stomached belchers are due to colitis, and curable by appendicostomy with proper after treatment.

I do not pretend to say that these are the only causes of abdominal pain, for we must not forget diverticulitis, intussusception, volvulus, internal hernia, tubercular peritonitis, intestinal malignancy, pressure or twisted pedicle of cystic or fibroid tumors, strangulation of the bowel by or through adhesions, mesenteric arterial thrombosis, peritonitis from external and internal traumatism, etc.

It has been said recently by one of our leading gynecologists that the uterine curette is the source of more trouble than any other instrument found in the physician's armamentarium. I am inclined to think, however, he should have given that place to the hypodermic syringe with its seductive, quarter-grain morphin tablets. It is so easy to hurriedly administer the "knock-out drops," and rush on to the next patient, to be called again two hours later to re-administer the soothing balm, thus postponing the time for accurate diagnosis and operative treatment until it is too late.

The story then ends by the call of the surgeon who because of such practices is more or less justly feared, and who, in his extreme anxiety hurriedly operates, trying often in vain to save the spark of life which has so nearly vanished; or the patient is permitted to die unoperated because the disease is not diagnosed early enough to warrant the surgeon's attempting the cure. I fear also that the patient's friends are often informed by the attending physician that he had exhausted every resource for the cure of the patient short of surgery; adding, as an excuse that the patient was really at the time first seen by him, too weak to undergo an operation. It seems to be quite forgotten by physicians who do not frequent operating rooms, that in the hands of a rapid, skilful operation, with proper surroundings, no great amount of vitality is required to undergo even quite severe operations.

The rapidity with which such patients thus operated regain their strength is little short of marvel-

ous. Therefore, he who assumes the mighty role of judge, jury, and executioner in such cases is taking upon himself responsibilities far too great for one man.

I have not attempted to describe in detail the treatment of abdominal pain, it being sufficient at present to say that most of the conditions described herein belong to surgery, and the earlier this is recognized by the entire profession, the sooner will the whole community, including the medical profession, profit thereby. In conclusion then I will add that early diagnosis, and quick but thorough surgery, are the chief factors to be relied upon to relieve the diseases of the peritoneal cavity which have pain for their chief symptom.

Discussion.

Dr. E. O. Witherbee, Los Angeles: A paper of this nature must necessarily deal not only with treatment but with etiology, pathology, symptomology and diagnosis of pain. Dr. Thomas has touched upon all briefly but to a small extent. When he touches upon treatment he must, in a measure at least, deal with technic, and there is where the shoe pinches. The different kinds of pain necessarily have to deal more with diagnosis. The patient knows that we understand something about the treatment, the question with him is diagnosis. The different varieties of pain depend in a great measure upon the peculiarity of the patient. We hear of the dragging pain, bearing down, nagging pains, etc., but that is a matter that goes with the patient's judgment as to how he feels himself. It may be an acute pain, it may be a dull pain, or it may be a referred pain. The books tell us a great deal about referred pains. The referred pain seems to me one that the patient himself is unable to locate, simply because the impulse is transferred by a nerve that is not as yet educated to a sufficient extent to enable him to locate the origin of the trouble. He says the pain is in the belly above the umbilicus. The patient has never before heard of the appendix or the McBurney point. If you press on the McBurney point you educate that patient as to where the pain is, and every time he has appendicitis afterward he knows just where the pain is. A patient with femoral hernia came into the hospital with no pain at the McBurney point, but there was a gangrenous appendix in the sac that had to be opened; the pain had been felt above the umbilicus. This is a question of education and as soon as the patient is educated he understands where this referred pain is. If the foot goes to sleep he cannot tell where his foot is, but if he looks down he will see it and then he knows where it is and can feel it in that position.

Dr. T. W. Huntington, San Francisco: This is a subject always of the greatest interest. I rise to call attention to one of the important points which presents itself to the physician when confronted by a patient suffering from more or less protracted discomfort and loss of vitality associated with many concomitant symptoms.

A very important distinction should be made between the terms pain and tenderness. In the recognition of these two manifestations, there is presented a very fine distinction, the one may be regarded as subjective and the other objective.

Pain is apt to be intermittent and of varying intensity. Tenderness is usually constant and may be depended upon largely to determine the location of the initial focus of disease. In this view of the subject, persistent tenderness is of the greater importance so far as throwing light upon the exact diagnosis; for example, in intrinsic intestinal carcinoma, during its early history, tenderness is often one of the earliest suggestions, and if carefully studied will lead to a final solution of the problem.

This distinction between pain and tenderness is

too often overlooked, with the result that the physician gropes indefinitely.

Dr. T. C. Edwards, Salinas: About ten or twelve years ago I noticed an article in the *Journal of Obstetrics and Gynecology*, April, 1899, title *Pain in Gynecology*, which said that frequently when making an abdominal examination, if you cannot make out any definite trouble, if you will gently pick up a fold of skin and pinch it, if the patient flinches, sometimes making a short cry, you are dealing with a neurasthenic. I have often found this to be the case and it will help you to eliminate certain inflammatory conditions.

Dr. W. I. Terry, San Francisco: There is one phase of abdominal pain which was only briefly referred to and that is abdominal pain due to pneumonia, particularly with a focus contiguous to the diaphragm. It has been my fortune in a number of instances to have met with such cases. The first case I recall was some ten years ago, where I operated upon a patient who had a severe pain located in the region of the appendix and pain nowhere else. Physical examination was negative so far as we could determine. The appendix was uninvolved, and the following twenty-four hours the patient developed a typical pneumonia, which explained the pain, and the patient died of pneumonia. Since then I have seen a number of other patients where the diagnosis could be made. There was one patient some six years ago where the diagnosis had been made of abscess of the liver and we were able to discover the true cause, that of pneumonia close down to the diaphragm. I have seen others referred to the appendix region. The last one was a young man who presented all the symptoms of appendicitis. Examination of the lungs was negative. We operated on him and found a normal appendix. That man did not develop his pneumonia until over forty-eight hours had elapsed; despite the fact that I was on guard I could not help making the error.

THE EARLY DIAGNOSIS AND THE PROPHYLAXIS OF THE TOXEMIA OF PREGNANCY.*

By TITIAN COFFEY, M. D., Los Angeles.

The purpose of this paper is twofold. First: To show that the toxemia of pregnancy can be recognized early and before the appearance of albumin in the urine. Second: To show that by proper prophylactic treatment the toxemia may disappear in the large majority of cases, and that the true eclamptic seizure denoting a severe degree of toxemia may be prevented.

The early recognition of a beginning toxemia, or of an already existing toxemia of a mild form, depends to a great degree upon a careful and systematic examination of the urine. This is particularly important in a certain number of cases in which the clinical symptoms are obscure or in which they are very slight. In regard to this latter point we must note those cases in which nausea, constipation and slight headache are present. Very frequently these are considered by the general practitioner signs which are rarely called pathologic in the pregnant woman. Yet these few mild symptoms show that a tendency to toxemia exists and in these cases the abnormal urinary findings should receive very careful attention. For this reason the results of the urinalyses in this series have been gone into at some length and have been carefully

analyzed. This report gives the findings in 344 urinalyses covering 53 cases of pregnancy. This, it is admitted, is a small number from which to draw conclusions, but the results obtained so far seemed quite interesting and it is hoped that this report may stimulate further investigation along this line. The belief which many observers hold, that the toxemia of pregnancy is primarily associated with intestinal and hepatic disturbances and that the kidneys are involved secondarily, seems to be borne out by the data secured. The following investigations were made and will be discussed in order of importance relative to the cases reported.

Quantity: In regard to what is the normal quantity of urine secreted by the pregnant woman it can be safely said that any amount between 1000 and 1500 cc. in 24 hours should be considered within the physiological limits. This it would seem is a wide enough range to allow for the normal variations in quantity, which of course will depend upon the amount of fluid taken, and the amount excreted through other channels, mainly the skin, bowels and lungs. Of the 344 specimens examined the 24-hour quantity was noted in 242. Of this number 110 or 32% showed that the quantity excreted was within the normal limits, and in 106 or 30% it was above 1500 cc. In these cases there was not one patient who was clinically toxic at the time the analysis was made; though in a small percentage of cases the urinalyses showed evidences of a mild degree of hepatic and intestinal disturbance. In 26 analyses, or 8%, the quantity excreted in 24 hours was less than 1000 cc., and of these 60% were clinically toxic at the time the analysis was made and all showed products of disturbed intestinal and hepatic metabolism in the urine. In the 15 specimens which were below normal in the quantity excreted 4, or 26%, showed evidence of renal irritation, namely albumin.

Indican: It is generally accepted that the presence of indican in the urine is evidence of proteid putrefaction in the intestinal tract, and according to Herter this is due to the action of putrefactive organisms of which the colon bacillus is the predominating type. Of the 53 cases 47, or 88%, showed the presence of indican in the urine at some time or other during their pregnancy. The difficulty of judging how early indican appears in the pregnant woman is due to the fact that the patient does not report to the physician in charge of the case until the pregnancy is somewhat advanced. In our series of cases indican has been discovered as early as the seventh week, at which time the first urinalysis was made. Whether or not it might have been found in the urine before pregnancy took place is, of course, impossible to state. Thirty-four of the 53 cases, or 64%, showed small amounts of indican. Sixty per cent. of the cases and 20% of the total 344 analyses showed moderate amounts. A large amount of indican was present in 41% of the cases and in 11% of the analyses. From a pathologic standpoint only those showing a moderate and a large amount need be considered, as traces of this substance are frequently present in the urine of healthy individuals. It is interesting to note that those cases which showed a large amount

* Read at the Forty-first Annual Meeting of the State Society, Santa Barbara, April, 1911.

of indican usually showed acetone at the same time, whereas those which showed only a small or a moderate amount rarely showed acetone. This would rather tend to indicate that acetone is more prone to appear when the degree of indicanuria is intense. In other words when the intestinal putrefaction is marked there is a tendency to the formation of acetone as well as indican.

Acetone: This is generally accepted as due to the incomplete oxidation of the fatty acids such as B-oxybutyric and diacetic acid. Acetone is found in the conditions in which there is an excess of tissue breakdown, to wit: severe anemias, malignant growths and starvation. It has long been recognized that it is of frequent occurrence in the pernicious vomiting of pregnancy. It is also found when there is a failure on the part of the body to burn carbohydrates as seen in diabetes mellitus. Hence, when acetone is found in the urine the various morbid conditions with which it is associated should be eliminated as far as possible. It is noteworthy that some cases of the toxemia of pregnancy are comparable to diabetic coma, and this, it would seem, is due to the acetone bodies circulating in the blood. In our series of cases there was only one in which the toxemia was of this type and in this instance acetone and diacetic acid were present and these substances disappeared as the patient recovered. Of the 53 cases acetone was present in small amounts in 25, or 47%. This occurred in 59 of the analyses made, or 14%. A large amount of acetone occurred in 18 of the 53 cases at some time or other, that is in 37%. Of the total number of analyses made a large amount of acetone occurred in 37, or 10.5%. Of those cases whose urine gave evidence of a large amount of acetone 55% were clinically toxic at the time that the analyses were made. In consideration of the foregoing facts we wish to emphasize the point that a large amount of acetone in the urine, occurring, during pregnancy, in a woman otherwise healthy, shows that a tendency to toxemia exists and should be regarded as a *positive* danger signal. This should receive careful prophylactic treatment, under principles to be discussed later.

Diacetic Acid: As this is one of the so-called acetone bodies we would expect it to be present when acetone is abundant. It is present in a certain number of cases suffering from toxemia, though it must be remembered that this is not always so, and it may be absent even when the clinical symptoms of a toxemia exist. Of the 53 cases in our series it was present in but 7 and all of these were clinically toxic. In one of these acetone was present in large amounts, as well as diacetic acid, three weeks before eclamptic seizures occurred. In the second, headache, vomiting and high tension pulse were noted but convulsions did not occur. This latter patient had severe eclamptic seizures following her previous pregnancy and was comatose 4 days. As the confinement took place in Indianapolis the urinary findings are not known except for the fact that albumin was *not* present.

Albumin: Of the 53 cases, 22, or 41%, showed albumin in the urine at one time or other during their pregnancy. In one, in which albumin was

constantly present throughout pregnancy, no symptoms of toxemia existed and the urine was practically normal in every other respect. In this case the albumin was probably due to an old nephritis and was not dependent upon the present pregnancy. In the first case cited above albumin did not appear until after the first convulsion, although it is worthy to note that acetone and diacetic acid were present three weeks prior to the eclamptic attack.

Albuminuria is a late manifestation of toxemia and it is therefore recommended that the other abnormal urinary constituents be looked for as well, since these will be found in the majority of cases some time before the condition is severe enough to cause renal irritation. In those cases which have progressed so far as to cause renal changes we find in the urine evidences of a severe acute exudative nephritis; that is, albumin in varying amounts, in one of our cases as high as 7% by Esbach.

Microscopically we find red and white blood cells, hyaline, granular and in some cases blood and epithelial casts.

Ehrlich's Aldehyde Reaction: This reaction is probably due to the presence of urobilinogen in the urine as claimed by Neubauer. Under normal conditions the urobilinogen is supposed to be derived in the intestinal tract from the reduction of biliary pigments, then absorbed by the liver and excreted. Berghausen, quoting Neubauer, states that a pathological urobilinogenuria occurs when the liver is insufficient; or when the liver is unable to excrete the urobilinogen, after it is absorbed from the intestinal tract. A faintly positive reaction was present in 8% of our cases but this cannot be considered pathological as a faint reaction is often present in the urine of healthy individuals. If we accept the view of Neubauer that it is due to the presence of urobilinogen we have an explanation of these faint reactions, since a small quantity of urobilinogen is present in the urine during health. Of the 53 cases 10, or 7%, showed a strongly positive reaction and of these 50% showed clinical symptoms of toxemia. It is of interest to note that an immense reaction was accompanied by a large amount of indican and also by the presence of acetone in the urine in many of the cases, indican being more constant than the acetone. From the foregoing remarks it would seem that here we have a method of detecting to a certain extent, liver insufficiency, and hence it is of importance in the toxemia of pregnancy.

Urea: Our observations upon the excretion of urea coincide with the generally accepted view, that in cases of toxemia the quantity excreted in 24 hours is diminished.

I want to impress upon your minds the absolute importance of early and frequent examinations of the urine throughout pregnancy, for I believe by this means we can anticipate clinical manifestations. Over one-half of the cases reported have been clinically toxic as shown by increased blood tension, headache, nausea, and constipation. The fact is clear that with careful urinalyses one is able to detect the beginning of toxemia frequently 24 or 48 hours before clinical signs become evident.

When these abnormal substances were found, the patients in some cases declared they were feeling well but within 24 hours, anorexia, nausea and constipation occurred, followed by headache. If this condition is not relieved, it goes on from bad to worse and we get into the well known condition of pernicious vomiting. This is much more apt to occur early in the pregnancy than later. If the condition develops later in pregnancy and persists, we usually have as a forerunner the three classical symptoms of threatened eclampsia, to wit: pain in the pit of the stomach, denoting portal engorgement; excessive headache, and disturbance of vision. Long before this situation arises the condition should have been recognized and prophylactic treatment instituted.

Treatment: The treatment under such conditions may be summed up in a few words,—restriction of diet and free elimination! The diet should be cut down to a minimum as the trouble usually arises from defective hepatic and intestinal metabolism due to proteid indigestion. We therefore eliminate all proteids from the diet: these include milk, meat, soups, fish, game and all vegetables and cereals high in proteid, such as oatmeal and peas. Buttermilk is allowed on account of its nutritious value and the action of the lactic acid bacilli on the flora of the intestinal tract. Free elimination is immediately established by the use of calomel in divided doses followed by salines, provided there is no renal irritation. Where there are evidences of acute nephritis the calomel is omitted and saline purgation is depended upon. High colonic flushes of large quantities of normal salt solution are given daily, either by return flow rectal catheter, the Murphy drop method, or simple gravitation, with the patient's hips well elevated on an inclined board placed in the bed. The reservoir should be kept at a temperature of 115° or 120°, and as much as 3 or 4 gallons of solution can be run in and out of the bowel in a few hours, according to the method used. In cases complicated with acute nephritis or inanition the sugar solution is preferable. There is here no danger of retention of chlorides and we secure the caloric value of the glucose besides decreasing the specific gravity of the blood, and thus backed by the carbohydrates, the body can live temporarily on its own proteids. Lettuce, dry toast and Zweibach are allowed, together with buttermilk and water in large quantities, until the next urinalysis has been made, which should be at the end of 48 hours. If there is no improvement in the condition the same restricted diet is continued. If, however, the abnormal substances have decreased materially or entirely disappeared the patient is allowed a more liberal diet. Carbohydrates are gradually added, then fats and lastly proteids in small quantities, using first the white meat of chicken, then a little white fish and eventually the heavier meats in great moderation. A free daily evacuation of the bowel is absolutely necessary for the welfare of the pregnant woman, and this must be strongly impressed upon her mind.

In cases of obstinate acetonuria, which may possibly be due to starvation, the diet is increased

materially and from 10 to 30 grains of sodium bicarbonate are given 3 times daily to overcome the acidosis. In other cases where elimination is poor and sluggish the judicious use of KI, either with or without small doses of thyroid extract has proved of benefit, by increasing elimination. These are practically the only drugs, with the occasional use of some of the salicylates, that have been found of any value in combating this condition. Occasionally some digestant may be used when there is considerable formation of gas in the stomach and small intestines.

I wish to emphasize the fact that the ordinary urinalysis, in which tests for albumin and sugar alone are made, is a mere waste of time. It tells absolutely nothing! A careful urinalysis and proper attention to the pathologic substances present will often prevent the appearance of albuminuria. In other words, by the time albumin has appeared in the urine, it means that a profound intoxication has been going on for a considerable length of time and the kidney breakdown is secondary to the primary cause of the trouble.

In some cases of profound toxemia which begin with conception and resist all lines of treatment, it goes without saying that after a careful trial of prophylactic measures, curettage must be at last resorted to for the relief of the patient. The keynotes of the situation are the general condition of the patient, her strength, appearance, pulse, together with temperature, persistent or intractable vomiting; a picture with which you are all familiar.

SUMMARY.

I. The quantity of the urine excreted in 24 hours is usually diminished in cases of toxemia of pregnancy.

II. Indican when present in large amounts should receive careful attention as it is probably the forerunner which indicates a beginning toxemia.

III. Acetone should be tested for in every case. In the series reported 55% of those showing a large amount of this substance were clinically toxic. When acetone appears in the urine it is a manifestation of increasing toxemia of which we are forewarned by the presence of the lesser substances, especially indican. I consider the pregnant woman developing acetonuria to be in a most serious condition and her case should be watched most carefully. The situation is much more alarming with this development than if the urine merely presented indican with or without a positive aldehyde reaction. Unless the condition be relieved and responds to treatment eclamptic convulsions are almost sure to supervene.

IV. Diacetic acid when present denotes an increase in the severity of the toxemia and is usually late in appearance.

V. In Ehrlich's aldehyde reaction we have a means of determining the sufficiency or insufficiency of the liver and it would appear that a strongly positive reaction is a danger signal.

VI. The appearance of albumin is a late mani-

festation and should not be waited for, as it may not occur even though the toxemia be severe.

In closing I wish to emphasize again the importance of careful, frequent and systematic examinations of the urine of pregnant women and beware of acetonuria.

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ARTERIOSCLEROSIS; REVIEW OF CASES.*

By DONALD J. FRICK, M. D., Los Angeles.

The cases chosen for review were all private cases that have been watched for periods of from one to five years. The symptoms of each were due to the arteriosclerotic changes or accompanying hypertension; none were accepted that had prominent symptoms due to other conditions.

The interest in the condition is due to its frequency everywhere. This is true in Southern California, especially where the worn out and broken down come for rest and recreation, and where on account of the climate every day is a working day for the people who live here. The "wear and tear" of life is constant and extreme.

As these cases are always with us and are every day being produced in our surroundings, every one of us should be familiar with the symptoms, the cause, the prophylaxis and the treatment.

Recognition of the pre-sclerotic stage will save many useful lives, recognition of the moderate cases may prevent progress of the condition, diagnosis of advanced cases often gives opportunity for amelioration of symptoms and prevention of sudden disaster.

To bring before you the salient etiological factors, the everyday symptoms, the points for diagnosis, and a few points of treatment that have been useful to the writer, this review has been undertaken.

Taking these twenty-two cases of arteriosclerosis, some late and some early, it has been the intention to classify them so they can be easily followed.

First as to etiological factors:

I. Heredity:—

Immediate family:

- Five had one parent die of chronic nephritis.
- Four had one parent die of heart disease.
- Two had one parent die of arteriosclerosis.
- One had both parents die of cerebral hemorrhage.
- One had a brother die of cerebral hemorrhage.
- One had one parent die of cerebral hemorrhage.
- One had one sister die of cerebral hemorrhage.

II. Age limits:

- 2 bet. 20 and 30.
- 4 bet. 40 and 50.
- 7 bet. 50 and 60.
- 8 bet. 60 and 70.
- 1 over 70.

III. Sex:

- 8 males.
- 14 females.

IV. Class:

- 4 rich.
- 10 well to do.
- 2 poor.
- 6 moderate.

V. Thirteen married; 3 single; 6 widowed.

VI. Occupations:

- 3 bankers.
- 3 business men.
- 1 retired.
- 3 housewives.
- 1 teacher.
- 1 ranchowner.
- 1 student.
- Remainder no occupation.

VII. Race:

- 20 Americans.
- 1 French.
- 1 Australian.

VIII. Residence:

- Ten have lived in Southern California from 8 to 30 years.
- Remainder under 5 years.

IX. Immediate causes:

a. Infections—

- 11 have had typhoid.
- 2 have had tuberculosis.
- 4 have had pneumonia.
- 1 has had a venereal infection.

b. Constipation—

- 5 atonic over 10 years.
- 2 spastic over 20 years.
- Remainder none.

c. Mental strain—

20.

d. Alcoholism—

- 3 moderate drinkers.
- 1 heavy drinker.

X. Complaint:

- 4 retinal hem.
- 4 conjunct hem.
- 2 temporary blindness.
- 1 paralysis.
- 2 pain in legs and feet.
- 3 temporary paralysis.
- 1 dimness of vision.
- 3 headaches and indigestion.
- 1 shortness of breath on exertion.
- 1 shortness of breath after retiring.
- 1 blood in urine.

XI. Subjective symptoms—

- 9 headaches.
- 9 dizziness.
- Dyspnoea—
- 10 on exertion.
- 1 after retiring.

* Read at the Forty-first Annual Meeting of the State Society, Santa Barbara, April, 1911.

- Amaurosis—
 - 3 temporary.
- Vision—
 - 4 lim. of field.
 - 6 dimness of vision.
 - Remainder good.
- Unconsciousness—
 - 2 temporary periods.
- Paralysis—
 - 2 transient.
 - 1 permanent.

XII. Objective symptoms:

- General nutrition—
 - 6 above normal.
 - 8 below normal.
- Heart—
 - 15 hypertrophied.
 - 3 dilatation.
 - Remainder normal.
- Murmurs present—
 - 3 mitral.
- Irregularities—
 - 6
- Reflexes—
 - 12 exaggerated.
 - 6 normal.
 - 3 diminished.
- Arteries—
 - 10 palpable.
 - 7 def. thickened.
 - 5 thickened and tortuous.

Blood pressure—

The readings were the averages during the time they were under treatment and were taken with a Cook's modification of Rivva-Rocci, a Faught, and with Kilbourn's sphygmomanometer; the earlier cases were all gotten by palpation of the radial—the later cases checked by the auscultory method.

- 4 bet. 120—130.
- 4 bet. 140—150.
- 7 bet. 150—180.
- 4 bet. 180—200.
- 3 bet. 200—250.

Retina—

- 7 hemorrhages.
- 12 tortuous vessels.
- 2 spasms of vessels.

XIII. Lab. examinations:

- Urine, average of all examinations made.
- Amount in 24 hrs.
 - 6 normal.
 - 9 increased.
 - 7 diminished.
- Spec. gravity—
 - 9 normal.
 - 3 high.
 - 10 low.
- Albumen—
 - 6 present.
 - 16 absent.
- Casts—
 - 5 present.
 - Remainder absent.

Indican—

- 15 trace.
- 3 increased amount.
- 4 none.

Anemia, Reds under 4,000,000. Haem. 75.

11 present.

4 absent.

Remainder blood not counted.

XIV. Complications—

- 6 intestinal nephritis.
- 2 pul. tuberculosis. One of these had B. P. of 120, and thickened and tortuous arteries.
- 1 Chronic cholecystitis.

Each of you has perhaps realized the inadequacy of such a segregation of etiological factors, symptoms, and signs, as it does not give you all the facts that are desirable. For instance it would be valuable to know the age of the patients with extremely high blood pressure, thickened arteries and serious symptoms,—without a detailed history of each case this is impossible. A woman of 46 and a man of 68 had the highest blood pressure, the woman's arteries were thickened and tortuous, the man's were simply thickened. One had temporary hemiplegia, the other permanent hemiplegia, so it was through the whole list of these cases; therefore this arrangement seemed the best that could be made.

The points of interest brought out by this summary are:

First, 15 of these patients had one or more of their immediate family die of a disease of the circulation. As Osler says: "Not only are there individuals, but whole families with 'hobby' blood vessels."

Second, the age limit from 25—75

Third, the predominance of females 14—8. A word about this, the predominance of women patients with arteriosclerosis is probably due to this locality. Women who live in the southwest, especially the arid regions, are continually under a nerve strain and therefore more likely to have early changes than men. Four of the severe cases of this series were women who had lived for 15—30 years in what was absolute desert.

4th, practically all these people were brain workers and money makers.

Fifth, ten had lived in California from 8—30 years. Twelve had come to California for their health.

Sixth, eighteen had had infections of definite severity. Seven had constipation of years' standing. Twenty of them had gone through years of mental strain. Four only had any alcoholic history.

The complaints of these patients are of interest:

Twelve of these patients had gone to oculists and were referred to me by those men.

The conditions found were unusual, comprising:

- 4 retinal hemorrhages.
- 2 dimness of vision.
- 2 temporary blindness.
- 4 conjunct. hemorrhages.

With the exception of two of these patients a proper diagnosis had not been made until they were seen by the oculist.

Eight of the remaining ten cases had had varied diagnoses from time to time.

The symptoms as a whole need no recapitulation, as most of them are those ordinary to the condition.

Diagnosis: In the foregoing paragraph has been mentioned the frequency of diagnosis made by the oculist, and too much praise cannot be given them for their ability to diagnose not only the late but also the early cases, which need attention and may be saved a great deal of the subsequent troubles of this malady. Early diagnosis will probably always remain in the hands of the oculist, as Dr. Geo. de Schweinitz and others have shown that the retinal arteries are the most important in which to see early thickening. The late ones should not need the eye man to be recognized.

Most of the cases here reported had been treated for either neurasthenia, nervous dyspepsia, heart disease, kidney disease, rheumatism, or our old friend uric acid diathesis.

As sclerosis of the arteries is not as a rule evenly distributed throughout the whole system diagnosis is sometimes difficult. However, careful attention to history, symptoms and signs gives us definite knowledge in almost every case. The history is usually one of high living, mental or physical strain, infections, over indulgence in alcohol or tobacco, and occupation poisoning. The symptoms may be all or a few of the following:

Headaches, dizziness, painful feet and legs, dyspepsia with eructation of gas at intervals especially after retiring, pain or soreness over the abdomen.

Furthermore we find dyspnoea, either on exertion or in one or two hours after retiring, also temporary blindness, limitation of field or dimness of vision.

There may be periods of unconsciousness followed by temporary or permanent paralysis and mild or severe attacks of angina.

In the late cases all the symptoms of heart and kidney insufficiency occur.

With such a history and symptoms, we may expect to find the cardinal signs, on physical examination, leading to a definite diagnosis. These are:

1. Thickening of the peripheral arteries.
2. Signs of hypertrophy of the left ventricle—dislocation of the apex outward—prolonged rumbling first sounds and accentuated aortic second.
3. Heightened blood pressure.
4. Occasional appearance of albumin in the urine.

Having arrived at this definite diagnosis the question arises: to what extent is this condition amenable to treatment? The results in my series are as follows:

None of these cases can be said to be cured. Seventeen of them, however, were definitely improved, that is to say their subjective symptoms for the time at least, have disappeared or been ameliorated. The two between 20—30 have absolutely no symptoms at present. One man with dyspnoea on retiring has been free from this symptom for two years. Digestive disturbances have been in several cases almost abolished.

Five were not improved,—perhaps relieved of one symptom, only to have others appear.

Anatomical results have, of course, been nil.

Decrease in blood pressure was accomplished in

ten, these were cases that were able to so arrange their lives as to free themselves from care, and strictly keep regular hours of rest. Any break in the routine has always been accompanied by return of high blood pressure. The amount of decrease was from 10 to 40 mm.

In twelve cases the blood pressure either remained practically stationary or gradually increased.

Four of the cases which had retinal hemorrhages are still under observation and from time to time have new hemorrhages.

Treatment: The object of treatment of this disease is threefold:

1. To remove existing causes which increase existing conditions as,
Constipation.
Chronic infections.
Nerve strain.
Muscle strain.
Injurious foods and liquors.
2. To ameliorate subjective symptoms.
3. To prolong life.

All three objects may be secured by hygienic, dietetic medicinal and psychic treatment.

Hygienic treatment must consist of:

- Definite hours of rest, exercise and recreation.
- Proper clothing.
- Climate and elevation suited to the several needs.
- Perfect ventilation of sleeping apartments.
- Regular bathing in warm water for a period of 20—25 mins.

Dietetic: Foodstuffs so chosen as to meet the needs of the individual case; anti-constipation diets for some, obesity diet for others, fattening diet for a third class. We must keep in mind at all times that certain foods,—as meat extracts, spices, foods rich in proteids, and alcoholic beverages are injurious to kidneys definitely impaired.

Fluid intake must be carefully guarded, as large amounts, over 1500 cc., will raise blood pressure and increase the pathologic condition, thereby augmenting existing subjective symptoms.

Medicinal treatment: The nitrites, either as sodium nitrite or nitroglycerin do temporarily lower blood pressure, but certainly only when hygienic and dietetic treatment is carried out.

It is a mooted question whether blood pressure should be lowered as the rise is undoubtedly a protective measure on the part of the organism to make up for loss of elimination through temporarily or permanently impaired organs.

The different bromide preparations are of constant value as they relieve nerve strain, which is at all times distressing and absolutely harmful to the patient.

Cathartics should be used intelligently, not as is often done to counteract the baneful effect of large amounts of fluids given to wash out the kidneys, but to decrease intestinal putrefaction and absorption of toxins.

The iodides have always been a part of the treatment of this condition, not because they affect in any way the existing arterial changes but rather to help protect the vessel walls from further damage, and to increase elimination of toxic substances. Certainly the effect of these drugs is most gratifying in

many cases,—relieving muscular pains, decreasing dyspnea, etc.

Digitalis in small doses has to be used occasionally for those individuals with dilated hearts and the accompanying symptoms of lost compensation.

Psychotherapy: In no other class of medical cases is it as necessary to put the mind at rest and give encouragement as it is in these. In handling these people one must have tact, firmness and cheerfulness at all times.

To write out definitely for them every small item of the desired regime is the best beginning of psychic treatment. Routine relieves their minds and gives them confidence.

In conclusion, our duty it seems to me to our patients with arteriosclerosis is to acknowledge their condition as early as possible, tell them frankly their danger, help them to moderate their lives so that they may go on comfortably to the end of their allotted time.

Discussion.

Dr. W. Jarvis Barlow, Los Angeles: It is impossible at this late hour of the morning to take up the many interesting features that Dr. Frick has presented. A few points, however, have come to my mind, i. e., to emphasize the importance of early diagnosis and the help of the oculist in these cases. The percentage of members in a family having similar trouble of circulatory disturbance, stated by Dr. Frick, as about 70%, coincides with most observers. We almost always find other members of a family with circulatory disturbance. I remember a family in which both the parents died and all the children (4) are now suffering from arteriosclerosis. In regard to the symptoms, the things most notable are the mental disturbances, vertigo and pains in the extremities. These are the things which impress me a good deal. The causes are generally over-exercise mentally or prolonged mental exercise rather than prolonged physical exercise; over-eating rather than over-drinking or smoking. The cases I have seen have been more from prolonged mental disturbance and strain. A few words in regard to treatment. Dr. Frick has laid great stress rightly on the matter of rest and diet. I do not know of any class of cases where one can get such good results with mechanical aid and without medicine as in arteriosclerosis. Diet of milk and vegetables or a buttermilk and vegetable diet, has been most efficacious,—also rest and exercises and baths. Dr. Frick did not give quite enough emphasis to baths,—electric or warm baths. Recently I have given several cases Nauheim baths who did not get well as rapidly as those under the electric baths. The electric baths are given with the idea of increasing the elimination and correcting the faulty metabolism, and also reducing the pressure. Many men have recently written on the high frequency current bringing down the blood pressure. I have personally had no experience with that. I regret the hour is so late for continuing this interesting subject.

Dr. T. J. Orbison, Los Angeles: I think it is a great pity that this subject should be crowded into the end of a morning, as there is so much to be said about it. It is really one of the most important questions to be considered by physicians in general. A great many of these cases are seen first by the neurologist—they come with indefinite symptoms—mental agitation, depression, interference with sleep—interference with digestion and mental warnings. The treatment depends a good deal upon when you get the case. I think the essential thing is to find out how long the patient has been the subject of this condition; to this end I have every case examined by an oculist, because so often the first symptom is sclerosis of the eye arteries. If you can get a case

as early as that without any other symptoms, except possibly some heightened tension, the patient should be out of bed for a certain length of time each day. Very many women are affected. I think that that shows that we can, to a great extent, rule out alcoholism as a cause. In a good many of the cases in men, however, instead of alcohol I believe that tobacco is a cause. There is no drug which will heighten the blood pressure as will nicotine. I put these patients to bed for a time—the time being regulated by the nervous condition of the patients. I believe with Dr. Barlow, that the bath should be instituted early. You will find a quieting of their minds and of their hearts. In treatment, we know that we have connective tissue being formed in the media—iodide is the drug to use, and after a time by iodides alone the blood pressure will come down and stay down. When the blood pressure is up to 200 or even 150, I believe in using the nitrates in addition to widen the lumen of the arterioles. In late cases showing anginal symptoms, nitroglycerin is of benefit. But I believe the main point is in absolutely regulating the whole mental and physical life of the patient.

TREATMENT OF EPITHELIOMA BY CURETTING, FOLLOWED BY CAUTERIZATION WITH CHROMIC ACID AND LATER BY EXPOSURE TO X-RAYS.*

By GEORGE D. CULVER, M. D., San Francisco.

In the treatment of a superficial epithelioma certain points must always be carefully considered in devising a line of procedure that will completely remove all the pathologic tissue. No matter what line of treatment is used, outside of complete surgical removal, curettage is essential if the infiltration is at all extensive, and those cases in which it is not necessary are exceptional. Though many different methods of handling such a lesion are well known, attention is called to a particular method as one of preference in selected cases for gaining the best results both as to complete removal and as to absence of a disfiguring cicatrix. No one wishes to be left with a conspicuous scar, not even an elderly person, and many patients presenting epitheliomata of the face are still young.

During a number of years of association with Dr. Douglas W. Montgomery and Dr. Howard Morrow, I have had the opportunity to see many cases successfully treated with chromic acid crystals after careful curettage. This chemical is chosen primarily because it is a liquefying caustic, and like potassium hydrate it dissolves the cells and does not produce a banking up of the cauterized tissues when first it comes in contact with them, as do the caustics of which silver nitrate is the type.

The choice of the chemical as a caustic is an interesting and important matter. Some chemicals act superficially and form a leathery barrier against their deeper action. Other caustics are liquefying and tend to penetrate deeply. To illustrate: nitrate of silver is an excellent cautery to stop superficial bleeding because it forms this tough membrane, whereas one of the disagreeable features of using chromic or trichloroacetic acid, caustic potash or acid nitrate of mercury is that bleeding is not stopped as with the first mentioned cauterizing agent, but the

* Read at the Forty-first Annual Meeting of the State Society, Santa Barbara, April, 1911.

tissues are cut into more deeply. This action, which may be very disagreeable in other conditions, is what you wish here. Dr. Alonzo Clark used to say that if you put a mouse into chromic acid it would be dissolved. This dissolving action is just the property required in an infiltrative disease like epithelioma.

Chromic acid is used because experience has shown that the destruction produced is sufficiently extensive to remove all the pathologic epithelial structures remaining after curetting, and furthermore after it acts it forms a tough crust countersunk in the tissues, effectively closing the wound and preventing septic infection. The prevention of sepsis is an important matter in the resulting scar, as the less the sepsis the less liability is there to redundancy of granulation tissue and therefore to redundancy of scar tissue.

No matter how extensively chromic acid is used, it is apparently devoid of any dangerous systemic effects. Its foregoing properties are so advantageous that Dr. Montgomery has used it in the treatment of superficial epitheliomata for twenty years.

In using chromic acid most cases can be handled with local anesthesia, only a few requiring general anesthesia. All the friable tissue is vigorously scraped away until a firm underlying base is reached. Too much importance cannot be placed upon thoroughness of curetting. Attention is called to this by Dr. Sherwell in speaking of curetting and the application of caustics, and his results prove his method an excellent one.¹ The caustic he uses would, in the hands of one who would not curette so thoroughly, be much less effective and recurrences would be more frequent.

After curetting, fresh bright red crystals of chromic acid, taken from a bottle that has been kept sealed, are applied to the dry raw surface and pressed down. That the surface should be dry and that the chromic acid crystals should be bright red are both important points. Any deepening of the color shows the presence of water. Moisture is to be guarded against, both in the crystals before they are applied and in the wound on the application of the crystals, as chromic acid in contact with a liquid becomes strikingly less vigorous in its action. The dryness of the curetted surface is attained either by pressure with cotton pledgets or by applying a solution of cocain and adrenalin. Only after all oozing has stopped can the caustic be advantageously applied. The object of the cocain in contact with the raw surface is to render it less sensitive to the burning effect of the acid. This is helpful in treating a feeble elderly person as it prevents any distinct shock caused by the lightning-like rapidity with which the cauterant acts, and a restless patient is less likely to jerk away from the operator.

Chromic acid in contact with the raw tissues bubbles up and becomes black, and much heat is developed. The black liquid is already, however, much less active than the bright red crystals and does very little harm by flowing over on the sound skin. This spreading is prevented by the use of cotton. Often the acid burns into small blood ves-

sels, and it is not unusual to be surprised by a shower from a "spurter." Pressure alone is usually all that is necessary to stop such bleeding; if oozing is persistent a few more crystals may be pressed over the bleeding point. As the application dries it forms a thick, black, protecting crust, that, as before stated, is countersunk in the skin. This dark brown, depressed, hard covering so firmly closes the wound that no other dressing is necessary. The reaction produced is sometimes quite marked, but it soon subsides and the congestion is undoubtedly an aid in destroying and removing any remaining pathologic cells.

The pain produced is of short duration, is of a severe burning character for a few minutes, reaches its climax before the patient leaves the office and is practically gone in one to two hours. Later there may be some annoyance caused by the pressure of the unyielding crust, and in a neurotic individual this discomfort may be magnified to the extent of his feeling real pain. The great majority of patients consider it lightly. Still later, as the crust loosens, there is some itching. This can be relieved by softening the outer edges with a mild antipruritic salve and removing the dried accumulation formed by the oozing from underneath the main crust. Should there be still further discomfort the application of a hot starch poultice containing boric acid will readily give relief. This sort of poultice is also an aid in loosening the crust when its removal is desired.

The only further treatment necessary is that which may be indicated symptomatically. Dressings are unnecessary, as the crust forms all the protection required. The part may be powdered or covered but only to disguise it. Careful cleansing is of course advisable and the patient should not be away from the physician too long, as frequently a mild pyogenesis appears, which is annoying only when the pus is held in by the crust. It is of minor importance and never leads to anything serious if the crust is loosened and the part frequently cleansed with an antiseptic lotion.

The crust ordinarily remains on five or six weeks, during which time the process of healing takes place underneath. Sloughing of the crust begins, usually, in ten days or two weeks, and is first evidenced by a loosening at the edges where healing first occurs.

In following a number of these cases in which results as to apparent complete cure have been most excellent and in which the cosmetic results were equal to any obtained by use of other caustics, my attention was called to the fact that some of the cicatrices were not as good as those following complete or partial treatment with X-Rays. In fact, the scars following the use of the X-Ray are less disfiguring than those resulting from any other line of treatment I know. In all probability whatever complete cures are obtained by the use of radium would show results as good.

The observation of the irregular cicatrices led me to the use of X-Rays for the purpose of attempting to control the scar formation. My conclusion is, of course, a tentative one, as it is based upon a limited number of cases treated in the office, but I believe that X-Rays, in conjunction with the use, previously,

¹ Further Observations on the Technique of an Efficient Procedure for the Removal and Cure of Superficial Malignant Growths, by Samuel Sherwell, M. D. The Jour. of Cutaneous Diseases, October, 1910.

of the chromic acid method, is advisable. The plan has been to remove the crust as soon as it is fairly loose, some time during the third or fourth week. The part and a border around it is then exposed to X-Rays in medium dosage, as at a distance of six inches for ten minutes, using on an average a voltage of thirty and an amperage of two, all the surrounding parts being carefully covered with lead foil; such dose to be given two or three times a week during the subsequent period of complete healing. It is necessary to remove the crust as the rays have little effect unless the base is exposed. In extensive lesions which have been cauterized with chromic acid it is at first difficult to remove all the crust. Its margin can be cut away, exposing the part where healing begins, and this outer free surface can be exposed to X-radiation. Each subsequent time more of the crust will be found removable and more of the base exposed for treatment. By this procedure one has full control over the extent of unhealed surface where X-radiation is indicated.

The result of this use of X-Rays on the lesion as the scar is forming is analogous to the beneficial effect produced by the rays in keloids whether secondary or spontaneous in their development. I believe that in many instances hypertrophic scars can, by the above method, be prevented where they would otherwise develop and be a poor advertisement to the physician as well as a source of chagrin both to himself and to the patient.

Not all cases are handled by the method in question, as the statistics herein given will show. Potassium hydrate stick has proven the preferable caustic when a similar treatment is carried out on a lip epithelioma. Arsenic paste is more far reaching in extensive deep involvement, and is used, but not as frequently as formerly, while other cases indicate the most complete surgical removal, and this method is imperative if there is glandular involvement. Still other cases may baffle the surgeon and yet be amenable to the palliative and even curative influence of the Roentgen rays. Radium has its use in these cases as well as in those less serious. Dr. Friedlander speaks highly of fulguration in eradicating the growths.² Only a wide experience will enable one to choose the best treatment for a particular case, and to alter it later is surely not a crime. It is always necessary to weigh all points most carefully before beginning any line of treatment. We believe that in not a single instance were the patient's chances jeopardized by the method described. Where a second operation is necessary, if done early it is far from being a formidable affair.

The points considered in the selection of cases are these: The lesion generally has been present many months, is either a firmly indurated plate or tubercle in the skin, of shiny, waxy appearance, pinkish or yellowish in color, showing distinct dilated capillaries near its surface, or it is an ulcerated lesion showing in some part of its periphery a raised, rolled or nodular firm, waxy border which presents the characteristic dilated capillaries, and having an irregular center with an uneven, easily bleeding base that discharges a viscid fluid which

dries into dirty yellowish crusts. Its appearance is often greatly changed by added infection or by previous treatment, but some of the characteristics are always present. Metastatic processes are uncommon in this type of epithelioma, but are sometimes present, and if so an entirely different treatment is required, and if inoperable it becomes the unpleasant duty of the physician to so consider it.

It is this type of growth that is so frequently mistaken for lupus, but the history of its not having begun so early in life and the absence of the so-called apple-jelly nodules seen in lupus vulgaris through a glass pressed over the lesion would rule out the latter. It is possible it may be a euphemism on the part of the doctor in telling the patient he has lupus, as any name implying cancer carries with it such terror.

Out of one hundred and thirty-nine patients presenting epitheliomata, forty-four with fifty-three separate lesions were treated by curettage and the application of chromic acid crystals. The tumors were located as follows: Nose, fifteen; cheeks, fourteen; ear shell, seven; forehead, seven; eyelids, five; and one each on upper lip, lower lip, neck, chin and back of hand. Twelve of the forty-four patients had previously been treated by one or more of the following methods of treatment: Arsenic paste, CO₂ snow, curettage followed by the application of trichloroacetic acid, Paquelin cautery, surgical removal and "Christian Science," and there was either incomplete removal or recurrence from apparent complete removal. Five of the forty-four are now under treatment. Of the remaining thirty-nine, twenty-three of whom we have knowledge and who had twenty-seven different tumors have remained free from recurrence for periods of time varying from a few months to five years. We have fairly definite information that seven of the remaining sixteen never had recurrences or have not had up to the present time, and of six others information is unavailable. Three had recurrences and one of the five under treatment has a recurrence, making a total of known recurrences in four patients, practically nine per cent. Subsequent treatment of the four has been along similar lines.

Eleven cases have been treated with Roentgen rays following the removal of the crust formed by the cauterization with chromic acid, and the results are so satisfactory that we are following the plan quite generally.

In closing I wish to thank Dr. Douglas W. Montgomery, whom I first saw use chromic acid, for the use of statistics of cases treated since the earthquake and fire of April, 1906, and for his many valuable suggestions.

Discussion.

Dr. Albert Soiland, Los Angeles: Dr. Culver has given a very lucid explanation of the destruction of superficial epithelioma by chromic acid. This is a very large field to be covered in a short discussion. There are two or three points to be brought out in making the treatment clear. In using the method advocated, the curative agent in the treatment is distinctly chromic acid. The X-Ray is used to encourage healing. In curetting, the skin should be stimulated as little as possible. In the malignant varieties of superficial disease where metastasis is possible I do not think curettage a good procedure. It exposes the surface and opens up avenues for in-

² Treatment of Rodent Ulcers, by D. Friedlander, M. D., in Cal. State Jour. of Med., April, 1911.

fection. The avenues are then walled off. The chromic acid, I believe, is one of the best local caustics in the destruction of epithelioma. Gotthel uses this; Pusey relies more on the destructive work of the X-Ray alone; so does Reyn of Copenhagen. I have not used many caustics personally. I have used sodium ethylate or Co, ice, but rely largely upon the destructive action of the ray itself in the disease. I think the results would compare favorably with those of Dr. Culver's report. Whether the frequency of cure is as good with X-Ray alone is difficult to say. I have treated epithelioma for the last ten years with the X-Ray, and believe the percentage of cures is as high as that of any other method. The subject is a large one and requires much more time than this in which to discuss it properly. One of the gentlemen in discussing this paper has spoken of the ease with which epithelioma of the face can be cured by surgery. I will add that a great many of my cases have been post-operative cases of recurrence. Cases that have been referred to me by well-known surgeons.

Dr. Harry E. Alderson, San Francisco: The paper read by Dr. Culver and the remarks of the gentlemen discussing the same are very interesting. I am glad that something was said about the importance of determining beforehand which type of epithelioma is present. It is well known that the basal-cell epithelioma is comparatively benign as a rule and the squamous-cell type is a rather serious affair and shows a tendency to metastasize and involve the glands. With the basal-cell type we know that simple curetting and the application of some caustic will be enough to destroy the neoplasm if it is not very large. The action of the caustics, particularly chromic acid, arsenic and potassium hydrate will cause more or less marked inflammatory reaction, which reaction is supposed to destroy any of the remaining epithelioma cells. With the squamous-cell type it is of vital importance to thoroughly remove all the neoplasm and the involved glands as well, and this is best accomplished by a radical operation. The careful use of the X-Ray after first removing as much of the neoplasm as possible is a procedure which has the support of the best authorities. The results seen in the service of Drs. Douglas Montgomery and Howard Morrow at the Dermatological Clinic of the University of California Hospital, where I have been working for the past six years, justify the treatment. The scars that result are particularly good from a cosmetic standpoint.

Dr. E. D. Chipman, San Francisco: I think we must congratulate Dr. Culver on his very complete résumé of the local treatment of malignant growth by caustics combined with the X-Ray. I have never tried treating them by this combined method—the choice seems to me between X-Ray treatment or the treatment with caustics. Of the caustics I believe chromic acid is easily the best. It has never occurred to me to try the combination. It would be very nice if we could separate these cases into two distinct classes, in one of which we should find special indication for the use of the X-Ray and in the other indication for the caustic. In my own attempts to make this distinction, I have been disappointed. My experience with chromic acid has not been so favorable as Dr. Culver's concerning freedom from pain. I have found as a rule that the patient has complained of considerable pain. Concerning the resultant scar, I find the X-Ray better for the cosmetic result. I must say that both methods are good. The combination should give everything desired.

Dr. T. C. Edwards, Salinas: There is to my mind one objection to drawing deductions in a condition where you have to use three different remedies, each one of which is considered a cure for the malady treated. By curetting, by caustic application of and following the application of the X-Ray the results are frequently satisfactory. I might mention a case I had some twelve or fifteen years ago—an old

gentleman who had what I thought was an epithelioma of the nose. He had one of those papillomatous growths which broke down and he sent for me. I advised operation and he would not have it, and he said that he would treat it himself. He went around for a long time with a rag on his nose, and finally he was well and remained well until his death at the age of 93. I asked him after he got well what he had done for himself, and he said that he had used the yolk of an egg and salt. At the time I had charge of the County Hospital and I had a man out there with an evident epithelioma under his eye—so close to the eye that I could not operate without great disfiguring, so I put on the yolk of an egg and salt and it got well. What did the work?

Dr. Stanley Stillman, San Francisco: The title of this paper is somewhat misleading. It seems to me that the title of Dr. Culver's paper should have been "Treatment of superficial epithelioma of the face, not including lips, tongue or other portions of the body, etc." The paper, I hope the author meant to apply to that class of cases only. These may be treated by X-Ray with or without curettement and caustic, although I am sure that the combination will be more apt to give permanent cures than the X-Ray alone. The resulting scars are good in regions where plastic work is not always satisfactory. The X-Ray alone is sometimes efficient, but I have seen a good many not permanently cured and which had to be operated upon later. I want to emphasize, however, my objection to the treatment of epithelioma of the lip, penis, vulva, anus or other situations, or of deep epitheliomata of the face by such treatment as this. The lip border I have come to regard as a very serious situation for epithelioma on account of frequent early metastasis; and with me, epithelioma of the lip always calls for the removal of submental and submaxillary glands. The superficial epithelioma around the eyelids, nose, cheeks and forehead can be treated by Culver's method safely, but I am afraid that the treatment will not succeed in every case, and I am still inclined to favor—for growths of any magnitude or which have lasted for any length of time—the radical excision and the use of the Tiersch grafts or flaps to cover the defect, and removal of the regional lymph nodes.

Dr. Emerson, Oakland: I certainly enjoyed Dr. Culver's paper, as well as the discussions which have followed. I have listened with great interest to the results obtained by the caustic, X-Ray, curette and even the egg membrane and salt my predecessor referred to. That these cures can be obtained by such simple procedures is worthy of note. I feel, however, that it takes a very fine class of distinction to diagnose the particular case in which this method should be used. The general practitioner classifies most of these superficial face lesions in the same category, and I feel that it is dangerous to recommend their use, especially in lesion about the mouth and lips or genitalia. If under the cause of cancer, as accepted to-day, it is due to some irritation, as upon a chronic smoker's lips, spectacles, or a carcinoma developing on a stomach ulcer; we are to-day recommended to apply a number of different irritants—curette, X-Ray, caustic.

I take the liberty, therefore, of recommending for your consideration another method, which as yet has not been referred to. I mean a very sharp knife, preceded by the skin injection of a weak solution of cocaine. If the incision is so made, in removing the diseased skin and subcuticular fat, that the scar falls in line with the natural wrinkle of the face, it is scarcely perceptible. Often treated at one sitting with a couple of subsequent visits.

Here, too, is a field wherein we may exchange courtesies, as Dr. Culver has suggested, for I have treated a few cases that had previously been treated by dermatologists.

I take the liberty of referring to a personal experience with an old gentleman, eighty years of age,

with a large superficial epithelioma on the extension surface of the wrist the size of a dollar, also one on the side of the nose the size of a dime. I removed the former under cocaine; the latter growth was referred to the Dermatological Department of the Merritt Hospital, conducted by Dr. Harry Alderson, who used a method somewhat after that advised here to-day. The lesion on the wrist healed as rapidly as that on the face although it was several times larger. I believe Dr. Culver is right in treating these cases as he does, but I am never sure that I have the right kind of a case, so to eliminate all doubt I have always resorted to surgical methods.

Dr. George B. Culver, San Francisco: I am glad that emphasis was laid upon excessive and large doses of X-Rays in certain instances. There are many cases in which X-radiation seems to be the best treatment, but in order for the X-Rays to have their effect the indurated tissue must be removed, otherwise you may get healing but you will get a recurrence nearly every time. We have had a number of these cases act this way, and have found that the only safe method is to first get rid of the indurated tissue, either by surgical removal by the knife or by curetting thoroughly. There are cases in which you cannot use the chromic acid cauterization. As an example, an old lady of eighty-two was so affected by the curettage under cocaine that we could not put on the chromic acid and we did not dare to give a general anesthetic. We did use the X-Ray to the extent of twenty-five minute applications at close range and got a very marked reaction. Healing was slow and it has remained healed with an excellent scar for over a year. As far as surgery is concerned it is true that many cases come to us after surgical treatment, and well performed surgery, too. Other cases have been brought to us by the surgeons because there have been recurrences and it was feared that the same would be true after other operations. As an example of the benefit derived from the X-Ray, we have a case under treatment for a very deep-seated epithelioma of the neck that was removed a number of years ago and was cut out widely. There was a recurrence, and we tried a number of lines of vigorous treatment without success. One of our best surgeons who saw the man was willing to operate upon him, but felt that the cure was uncertain. At that time there was only a simple ulcer with a great deal of induration. Later the ulcer opened until it became as large as a half dollar. The man again asked for the X-Ray, and he was given something like twenty applications at twenty-five minutes each at the close range of two inches, until the reaction was so marked it looked as if the tissues would break down. The improvement has been most marked.

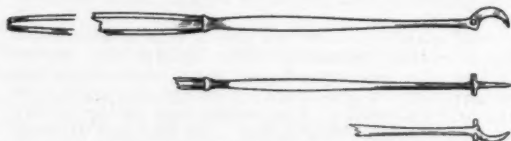
A NEW TONSIL KNIFE WITH A DESCRIPTION OF ITS USE.

By PERCY SUMNER, M. D., San Francisco.

In order to understand clearly the method of using a sharp knife in the enucleation of the tonsil, it will first be necessary to review briefly the anatomy of the tonsil. The tonsil lies between the anterior and posterior pillars of the fauces, in a triangular space formed by the two pillars conveying from the base at the tongue to the apex of the tonsillar fossa. The tonsil lies loosely in this space, being attached to the walls of the fossa by loose connective tissue passing from its capsule to the wall. The mucous membrane passing over from the pillars becoming fused to the tonsil itself and forming the inner covering of the tonsil. Consequently, in order to enucleate the tonsil quickly and surgically it is necessary first to cut the mucous membrane parallel with the pillars, from the base of the tongue along the anterior pillar (clear up to

the uvula in many cases) and then down the posterior pillar. The site for the cut is determined by pressing down the tongue—this puts the anterior pillar on the stretch and just posterior to it at the base of the tongue is a slight depression—here the knife is pushed into the *mucous membrane only* and this is incised for its whole length. Pulling on the tonsil then will show the capsule and with the tonsil dissector the adhesions are usually easily separated and the tonsil shelled out of the fossa. All that now remains being to snare off the tonsil at the base.

Since the tonsil can easily be pulled forwards and inwards, there is no necessity for the curved instruments that have been devised for grasping it and cutting the mucous membrane. They are awkward to use and a straight instrument fills all the requirements, and is more easily managed. I first used a probe-pointed knife, but early learned that since only the mucous membrane must be cut a sharp pointed small knife was needed. Acting on this idea I tried the Buck's bistoury and then later the Douglass crypt knife with the probe point ground down to a sharp point. But in cutting with these instruments I found there was a tendency for the mucous membrane to slip beyond the cutting surface on to the shank of the knife—thus going in too deep and the mucous membrane would then lie beyond the sharp edge of the knife. To obviate this I have devised the knife herein shown. It has the following advantages:



1st: The point being very sharp enables the operator to cut into the mucous membrane quickly.

2nd: The shape is such that the mucous membrane rides in the middle of the deep concavity, on a keen edge.

3rd: The guards on the limit of the cutting surface insure the cutting of the mucous membrane only—so that the most timid operator can use it without fear.

4th: And, lastly, it is so shaped that the field of operation is never obstructed.

To summarize: Tonsil enucleation means dissection; the first and important point being to incise the mucous membrane covering the fossa. To do the thing surgically requires a sharp knife, as in other parts of the body. When this incision is properly placed and made the rest of the operation, dissecting the tonsil from its bed is very much simplified. A freshly sharpened knife should be used for each operation.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of June the following meetings were held:

Section on Urology, Tuesday Evening, June 6th.

1—Urology: Past, Present and Future. Martin Krotoszyner. Discussed by Drs. Vecki, Eaton, Teass, Krotoszyner.

2—Experience with Epididymotomy in Gonorr-

rhoeal Epididymitis. Louis Gross. Discussed by Drs. Spencer, Eaton, Spiro, Vecki, Gross.

3—Report of two cases of Kidney Colic. Martin Krotoszyner.

Regular Meeting, Tuesday Evening, June 13th, 1911.

1—Some Misconceptions, Recent Contributions and Problems Concerning the Lymphatic System. Dr. A. W. Meyers, Professor of Anatomy, Leland Stanford Jr. University.

2—Demonstration of Specimen from a Case of Liver Abscess. Leo Munter.

Eye, Ear, Nose and Throat Section, Thursday Evening, June 23rd.

1—Lantern Slide Demonstrations of the Anatomy and Pathology of the Semicircular Canal. Docent Hugo Frey, Vienna.

Refreshments were served after the meeting.

Urology—Past, Present and Future.*

By M. KROTOSZYNER, M. D., San Francisco.

The first meeting of the recently formed Section on Urology of the San Francisco County Medical Society marks an epoch making event in the history of urology on the Pacific Coast. This occasion—all important and welcome to those of us whose interests and efforts are bent towards this hitherto neglected branch of scientific medicine—should not be permitted to pass without a few appropriate remarks upon the past, present and future aspect of urology.

The history of urology is best divided into two parts: the precystoscopic and the cystoscopic era. The first era produced two distinctly different types of workers in the field of pathologic conditions of the genito-urinary tract. The one group of great clinical surgeons, who owing to the material at their hands or on account of an individual inclination devoted their rare gifts of observational genius and technical skill to the study and treatment of diseases of the urinary tract—men like Thompson of London, Dittl of Vienna, Guyon of Paris, and many others—the other group comprising the so-called genito-urinary specialists, who treated venereal and in most instances skin-diseases and performed the minor surgery pertaining to the lower male genito-urinary tract. While the genito-urinary and skin—or as he was shorter and less respectfully dubbed, "clap-specialist,"—did not rank highest in the estimation of the profession at large, nevertheless it must not be forgotten that one of their rank and file, Albert Neisser, discovered and first described the gonococcus. Through this discovery the impetus was given to the present scientific conception of the pathology and treatment of gonorrhea, its various complications and sequels and this pathological condition formerly considered a negligible quantity was quickly raised to a respectable position in medical nomenclature.

Many and noteworthy were the advances in urological surgery during the precystoscopic era. Time and space though permit to point to but a few of the most prominent facts. The Frenchman Civiale gave us the lithotrite and with the discovery of the lithotritic aspirator by the American Bigelow, begins the era of modern litholapaxy, an operation in which our own Chismore excelled. Gustav Simon of Heidelberg planned and successfully carried out the removal of a kidney, an organ, without which continuance of life was considered impossible up to that time. The urine of the left kidney of a middle-aged woman was secreted through an incurable uretero-uterine and uretero-abdominal fistula, while the bladder-urine, representing the secretion of the right kidney, was found to be normal. By these means Simon was enabled to ascertain two facts, which in the present cystoscopic era are considered indispensable prerequisites to a contemplated nephrectomy, viz: the presence of two kidneys and the integrity of the remaining organ. Simon's first nephrectomy was successful, the patient making an

uneventful recovery; the patient in whom he, two years later, performed his second nephrectomy without the knowledge of the condition of the remaining kidney died 21 days after the operation from "pyemia" according to the official record, but most probably from deficient function of the remaining kidney.

While in precystoscopic times great clinicians studied and clearly described urological lesions, while a few great surgeons exerted their rare technical skill towards the treatment of disorders of the urinary tract, while men like Thompson and Guyon created famous urological centers at St. Peter's Hospital in London and the Hospital Necker in Paris where an international audience of physicians sat at their feet listening to their classical lectures on matters urological, nevertheless, it is true, that urology as a science per se exists only since its fundaments of diagnosis and treatment were created by cystoscopy. Up to the advent of the cystoscope we possessed a number of famous and gifted genito-urinary surgeons, who by their superior intuition, their enormous experience and individual skill were able to recognize and successfully treat lesions of the urinary tract that remained a *noli me tangere* to the average medical man. What narcosis and asepsis have done towards advancing and popularizing general surgery cystoscopy has accomplished for urology. From the hands of a few gifted observers and born technicians urology has come within the reach of every honest practitioner who is willing to devote his time and energies to the technic and scientific study of this special field of medicine.

Great and revolutionizing were the changes in the conception and treatment of urological lesions since Nitze presented his first cystoscope. Hypothetical or theoretical views, to which in precystoscopic times clinicians adhered for want of better or exact means of interpreting urinary symptoms, were replaced by a real diagnosis. Our views upon the inflammatory conditions of the bladder and the upper urinary tract, upon the cause of pains and the sources of hemorrhage were radically changed. Cystoscopy and its logical sequel, ureteral catheterization, enable us to localize the focus of an existing distressing pyuria and to devise its proper and effective treatment. The speculative and in most instances fallacious teachings upon the topical diagnosis of hematuria were replaced by the exact recognition of the bleeding focus. Casper and Richter's work on kidney-function did not only enable us to diagnose obscure renal lesions in their incipency, but also proved most valuable for the diagnosis of abdominal lesions in general. The differential diagnosis of gall- and kidney-stones and appendicitis on one side and spleen- and kidney-tumor on the other, of retroperitoneal, perityphlitic and perinephritic abscesses and other obscure intra-abdominal lesions is materially aided and in many instances only feasible by means of our modern urological diagnostic methods. Our views upon the pathology and treatment of tuberculosis of the genito-urinary tract have been revolutionized. Renal surgery has profited immensely through modern urological diagnostic means and the mortality of nephrectomy alone has been reduced from about 40% to less than 5%. Kummell for instance lost in precystoscopic times 3 out of 12 against 4 of 106 nephrectomies for tuberculosis and his death-rate of the same operation for aseptic stone-kidney has fallen to less than 3%.

The ranks of those physicians, who still consider cystoscopy and the newer diagnostic urological methods superfluous, too painful and often dangerous are gradually thinning out. Nevertheless, it is true, that cystoscopy is only slowly gaining ground and that the opinion is prevailing among the profession, that the method is unusually difficult of execution and unsafe as regards practical results. If properly done, though, cystoscopy and ureteral catheterization are almost painless procedures and I venture the contention that every well-trained physician pos-

*Chairman's address delivered at the first meeting of the Section on Urology of the S. F. Co. Med. Soc., June 6th, 1911.

sesses the moderate dexterity required for the execution of an ordinary cystoscopic examination. It is, as I know from personal experience, a method that can easily be learned and no student of medicine should be permitted to enter upon his practical career without at least a superficial knowledge of the modern urological diagnostic methods which furnish the key to the correct interpretation of many gynecological, neurological and abdominal lesions. A note of warning, on the other hand, must be sounded against the opinion prevailing in many minds that the possession of a cystoscope is coincident with the correct interpretation of intravesical pictures or that it entitles its injudicious owner to apply it, for instance, to a contracted tubercular bladder. The cystoscopic tyro is responsible for the mistrust still extant in a large and justly conservative portion of the profession towards a method that, only if properly used, represents a veritable diagnostic and therapeutic boon to physician and patient alike.

The remedy for this evil lies in the hands of our medical under-graduate colleges, who gradually are awakening towards recognizing the importance of competent instruction in modern urology, which must be accomplished in spite of the overcrowded curriculum of clinical semesters. For the fate and welfare of the sufferer from urinary disturbances lies as ever in the hands of the family physician or general practitioner who sees the patient first. While it would be absurd to expect the average practitioner to be possessed of special knowledge and skill in the various branches of the medical art and science, he must, nevertheless, be familiar with the important points, the possibilities and limitations, the indications, and contraindications, in fact, the actual and practical value of certain special methods which to-day are required for establishing an exact diagnosis. The specialist should not rank higher than the general practitioner; the latter should possess an equally large fund of knowledge as regards the fundamentals and principles of special methods of diagnosis and treatment and the former, on account of his constant occupation with and large experience in a special field, should lend in the more difficult cases the aid of his better trained eye and hand.

Urology as a specialty is still in statu nascendi and does not yet occupy the secure position that other well established specialties hold. Though it must be conceded that many general surgeons or internists possess the knowledge and skill required for urologic work, nevertheless modern urology has grown to be an independent field for research and teaching with an immense and steadily growing literature, which can only be absorbed by the one who devotes his life to the study of this special branch. In accordance with a tendency prevailing in other specialties (gynecology, ophthalmology, etc.) that all pathologic conditions of certain organs or regions, internal as well as surgical ones, should fall into the hands of the various specialties, urology embraces the diagnosis and treatment of all lesions of the urinary tract. The surgery of the urethra and bladder as well as that of the ureters and kidneys must be mastered by the modern urologist who at the same time should have exhausted all means of conservative treatment before resorting to radical measures. The modern urologist must be well versed in general pathology, bacteriology, radiology and other auxiliary sciences in order to be enabled to correctly interpret many of the more intricate lesions of the urinary tract. He must know the relationship of the urinary tract to the general system and thus avoid becoming a one-sided specialist. The dignity of the urological specialist and his ultimate and lasting success depend therefore mainly upon a liberal training in general medicine.

With urology is intimately connected the study of the pathology and treatment of the male genital organs, the prostate, testicles, urethra, etc., and so-called andrology is and in all probability always will remain an essential part of the specialty.

Most of our present-day urologists entered into the specialty either from general medicine or surgery and on account of their individual inclinations and preliminary training gravitate more or less either towards the internal or the surgical side of the specialty; the future, though, will demand an equally thorough training in all its diagnostic and therapeutic methods. The future urologist will obtain his special education at urological clinics or hospitals, which will spring up in all parts of the civilized world. Especially all teaching hospitals will soon possess well equipped urological services, which will furnish the teaching material to the chair of clinical urology.

Urology is a border-line specialty; it draws from all sides to accomplish its ends and on the other hand entertains many ties of mutual interest and information with the other specialties as well as with general medicine. The deliberations and discussions of this section should be, therefore, useful and elevating to every member of the mother-society. The future of scientific urology in the West and the success of this section depend not so much upon the efforts and enthusiasm of the few who are more or less specializing in this field as upon the co-operation and continued support of the profession at large.

Discussion.

Dr. V. C. Vecki: I do not think it necessary to discuss this paper because it does not bring anything out which we could oppose and I do not think we could add very much to what Dr. Krotoszyner has said. Of course, I thought that when it was promised that we would hear about the past, present and future of urology that he was going to cast a horoscope and tell us something he expects in the future for urology, but in that point I think he has somewhat failed. If we think of the tremendous changes that have taken place in the views of most practitioners and the medical profession in general in looking upon urology, we can expect a great deal from the future if we compare the present with the past. When I came to San Francisco eighteen years ago, a well-known practitioner here tried to advise me in many respects and when I told him my specialty was urology he said, "For God's sake do not tell that to anyone; the people will simply call you a clap doctor." That has changed just as the profession and the public at large have changed their views on that little disease which I mentioned a little while ago. Still the people go on joking about it at times and the fame of a man does not always reach far,—sometimes not further than his own office building. Recently the elevator boy stopped me and said, "Maybe you could tell me something that would be good for a case of gonorrhea," and I said, "You will have to excuse me and I will look it up in the books." While Dr. Krotoszyner has well covered the points looking towards the past he has forgotten some real things that concern urology just as much as the cystoscope, and that is the urethroscope. If we compare the instruments we used to have with the instruments that we have now, we marvel. I remember when old Dr. Gruenfeld, in Vienna, came with his tube in the early seventies and reflected light into the deep urethra, explaining something that looked like a piece of raw beefsteak; and he saw things that no one else could see and the people were almost justified in saying that there was no such thing as the urethroscope. But now with Swinburne's, Goldschmidt's and Buerger's we can see things that otherwise could only be seen in the anatomical dissection. I think that the urethroscope combination with the cystoscope in showing us the things in the living subject as well as any anatomical chart can picture them will bring urology more to the foreground and the progress urology has made compares favorably with that of any other branch of the medical science.

Dr. Geo. Lee Eaton: I can only reiterate what Dr. Vecki has portrayed in regard to Dr. Krotoszyner, who has drawn a vivid portrait of urology

from time immemorial to the present; he has gone into detail and has told us what the old school taught us, but he has not told us what we may expect, or in other words the horoscope of the future. This would be a hard thing to tell, and I look upon Dr. Krotoszyner as an able practitioner in that line, because the opportunities are so great in urology and genito-urinary work that no human mind at the present can foretell what the future will bring forth if we measure it by what has been done in the last few years. New instruments daily are being made and daily we read of new methods in the journals; the old books have passed as the old instruments have; they are curiosities and in time will be placed in the curiosity shop, as the instruments that were used by Babylonians. We are looking forward to the future; every man is weighed by his capacity to go into deeper work, and I believe the urologist of to-day, as recognized, will not be the urologist of tomorrow. This branch of medicine opens up a field to every young man. I believe that we are going to be able to transplant successfully kidney tissue so as to overcome the lack of functional capacity, that we often hesitate in the present time in the removal of a kidney for fear that the other will not be able to functionate properly. We are borderline specialists, we are dependent upon the neurologists and the gynecologists, but the time will come when we have so perfected ourselves that gynecology will be a misnomer, as our mistakes are often those which make the gynecologist.

Dr. Chester J. Teass: I did not come here this evening with the intention of discussing any paper, but since you have done me the honor to call upon me, I would like to say a few words on urology in relation to the general practitioner, as I am no specialist, having done general work most of the time for the past thirteen years. I think there is no question of the vast importance of the subject, and that every man in the general practice of medicine, particularly those doing surgical work on the kidneys, should familiarize himself with examining the interior of the bladder and catheterizing the ureters, for only after such knowledge as is thereby gained, is any operative procedure on the kidneys at all warranted.

I have in mind a recent case that came to Cooper Medical College in the service of Dr. Somers, in which one kidney had been removed a few months since by one of the well known surgeons of the town, and upon examination we find the remaining kidney badly diseased, giving rise to general symptoms; that means it will be a matter of time before the patient reaches a fatal termination. There is no doubt but that this kidney was diseased at the time of the removal of its mate, which should have been determined by a careful ureteral catheterization, and thus have avoided an unnecessary operation, which is always to the discredit of general surgery. Even though the kidney that was removed was badly diseased, in all probability some part of it was functioning, which would have been that much of an aid to the remaining diseased kidney.

Most of the cases of to-day are done by the so-called water method, and we hear nothing of the dry or air inflation method, but while I was on a recent visit to the East and Europe, I stopped at Baltimore to visit Dr. Howard Kelly, and one morning he took me into a private room, where he had a woman on the table, and exclaimed, "I wish to show you how dramatic this procedure can be made." Suiting the action to the word he placed a cannula into the urethra allowing the air to rush in and distend the bladder; he now rapidly located the orifices of both ureters, stepped backward four feet from the patient to where he had the catheter lying on a table, picked up a catheter between his thumb, middle and index fingers, took a quick step towards the patient, and quickly and most skillfully shot the catheter up to the kidney pelvis, repeated the operation on the opposite side. The whole procedure did

not consume much over a minute of time after the patient's bladder had become properly inflated with air. But as we all cannot be Howard Kellys in this field of work, we must adopt any method that we can be the most successful with.

Dr. M. Krotoszyner: The address just read was intended for the medical profession in general. Therefore, I purposely omitted to dwell upon the advances made of late in the perfection of special urological instruments like urethrosopes, instruments for intravesical therapy, etc. There is no doubt that Goldschmidt's water-urethroscope marks a decided step forward towards making endoscopy of the posterior urethra an exact diagnostic method and I am glad that this point was brought out in the discussion. As regards the reading of the horoscope for the future of urology I am convinced that that part of my paper was sufficiently exhaustive. I did not wish to enter into any speculations upon the future development of our specialty. I have outlined the possibilities of urology as a border-line specialty in relation to general medicine and its importance for teaching purposes. If these prophecies will come true in San Francisco and on the Pacific Coast during our years of activity I am sure that all of us will have good cause to be well satisfied. It is to be hoped that the proceedings of this Section will be of definite value to the general practitioner and incidentally arouse in him a continued interest for scientific urology.

Epididymotomy in Gonorrheal Epididymitis.

By LOUIS GROSS, M. D., San Francisco.

While the general recognition of the value of epididymotomy in the treatment of gonorrheal inflammation of the epididymis awaits the education of a conservative medical fraternity, it is conceded by all those performing the operation that the results are uniformly successful.

Two years ago the writer presented a paper on the same subject before the San Francisco branch of the American Urological Association, wherein ten cases were reported, and since that publication, the writer has had no cause to alter his previous ideas of its value, or the technic pursued, but, on the contrary, feels that it is an operation that should be undertaken more often and predicts that the majority of cases will, in the future, be surgically treated.

History. Puncture of the epididymis and tunica albuginea have been practiced many years; Pirogoff in 1852 punctured the testicle for orchitis, at that time the writers making no distinction between orchitis and epididymitis. In 1863 H. Smith incised the tunica albuginea in 1000 cases, resorting to it because of an erroneous diagnosis of abscess of the testicle; Spencer Watson in 1867 punctured the tunica vaginalis in 20 cases, particularly when effusion was present, this showing that puncture of the epididymis is an old method but one that had never become very popular. In Germany its revival began when Baerman in 1903 described 28 cases; Schindler also helped to resurrect this procedure. In this country, Belfield in April, 1905, published an article on "Pus Tubes in the Male and Their Treatment," advocating the operation of drainage of the epididymis, and in January, 1906, Bazet, in an article on "Epididymitis Based on Sixty-Five Cases," advised epididymotomy in all cases. In October, 1906, Hagner, working independently, introduced his method by reporting a series of six cases.

Operative Procedures. The following are the different methods of procedure: Belfield follows the plan of opening the canal of the vas and injecting the proximal duct with a silver compound.

Bazet's technic is as follows: He chooses the ligamentum scrotale for the incision, seizes firmly the swollen indurated nodule of the globus minor of the epididymis in the left hand and an incision one inch long is made downward into the cavity of the epididymis. He then exposes the nodules, relieves the

tension and punctures the nodules, if pus is present, and stitches the walls of the epididymis to the skin. He packs the wound with gauze impregnated with 1 to 10 ichthyol and glycerin and supports the organ.

In Hagner's operation, an incision is made 6 to 10 cm. in length at the juncture of the swollen epididymis and testicle through the scrotum down to the tunica vaginalis, which is opened at the juncture of the epididymis and testicle. After the serous membrane is opened all the fluid is vacuated. The epididymis is then examined and multiple punctures made through its fibrous covering, especially over those portions where the enlargement and thickening is greatest. The knife is carried deep enough to penetrate the thickened fibrous capsule and enter the infiltrated connective tissue. If pus is seen to escape from any of the punctures, the opening is enlarged and a small probe inserted in the direction from which the pus flows, and with a fine-pointed syringe, the cavity is washed with a 1 to 1000 solution of corrosive sublimate, followed by a normal salt solution. A cigarette drain is used. A continuous catgut suture closes the tunica vaginalis and a lock-stitch horsehair suture the scrotal skin. Moist bichloride of mercury dressings and a scrotal support to the testicle complete the process.

Dind and Metraux's method of procedure is to "pull the scrotum over the pubes, holding the lateral surface of the epididymis between the thumb and index finger of the left hand and incising the skin thus made tense. The incision is started over the tail of the organ and is prolonged according to indications, differing in each case, rarely extending to the head. The incision, made layer by layer, finally reaches the purulent focus, which is wiped out with gauze or scraped with a dull curette."

Schindler introduces his trocar for a distance of about 4 cm., puncturing from the tail upward or wherever the presence of an abscess may be felt, while Bruck, at the suggestion of Neisser, has adopted a simple incision into the tunica propria, without entering the epididymis itself.

The Germans, as a rule, use simple puncture, although there are some like Boross who incise. Ernst punctures the nodules with a Luer syringe and penetrates 1 to 2 cm. deep into the substance of the globus minor and aspirates, and he claims that one puncture, as a rule, is all that is necessary; although he has been forced to perform the same process a second or even a third time.

The writer still adheres to Bazet's technic and finds it most satisfactory. An incision is made in the globus minor sufficiently deep to penetrate its canal; a probe is introduced up the body of the epididymis for an inch to an inch and a half, and the walls of the globus minor sutured to the skin. It is rarely necessary to open the tunica vaginalis since the serum present is rapidly absorbed unless a large amount is present.

Anesthesia. As a rule, the Germans use neither general nor local anesthesia and claim there is only a "minimum of pain if performed properly"; yet, notwithstanding this statement, the writer would hesitate to operate without an anesthetic.

The American surgeons use general anesthesia and the writer has used ether, nitrous oxide and local anesthesia, but would not advise local as one cannot obtain the necessary freedom from pain. Ether or nitrous oxide should be used, with preference for the latter.

The following cases are of interest: Case 1. J. P. C., age 20, clerk, single. Consulted me April 20, 1910. The last three years he has had gonorrhea. Does not know whether this is a new or latent infection. He has been treated by an Oakland physician for the last fourteen days for epididymitis, with ichthyol ointment and rest, but is still suffering. There is some frequency of urination, diurnally, no tenesmus, no hematuria. On palpation, the left epididymis was found enlarged and painful. Four glass tests show cloudiness in all glasses. Discharge

profuse and loaded with gonococci. Prostate sensitive to touch, enlarged and expressed secretion contained numerous colonies of gonococci and leukocytes. Epididymotomy was advised and Dr. Chas. Pauson was called to administer nitrous oxide anesthesia in my office. After resting an hour, the patient took street car from office to his home, returning to the office next day and reporting himself very comfortable. Vas deferens much reduced in size. April 26th, 6 days later, all treatment of epididymis discontinued.

This case is recorded for the following reasons: Simplicity of operation, the rapidity of relief of pain and the brevity of duration of illness.

Case 2. H. C., 40 years old, married, secretary. Consulted me March 15, 1911, for an acute gonorrhea, involving anterior and posterior urethra and prostate. Refused to go to bed and was treated until May 3, 1911, when he was forced to rest on account of a left side epididymitis. Operation refused. In bed 12 days. Is better (May 30, 1911) but still noticed some slight aching in epididymis, while the urines are still cloudy.

This case is reported to contrast the time in convalescence in the operated and unoperated case, and further, had this case been operated, I could unhesitatingly say that by now the prostate would have resumed a normal state.

Case 3. G. B. P., age 25, single, jeweler. Jan. 17, 1910, no luetic history, gonorrhea and chancroid five years ago. Present illness began two days ago. Diagnosis: Acute anterior and subacute posterior gonorrhea. Ten days later, on Jan. 27, 1910, noticed blood at end of urination. Jan. 28th, urination still bloody, sent to bed. Feb. 4, 1910, left epididymitis; operation refused. Remained at rest in Mt. Zion Hospital, light diet, antiphlogistic treatment, temperature varied from 99° to 102.8°. On the 14th day temperature highest and on 15th day of rest (Feb. 19) was operated and left epididymis opened and drained. On Feb. 25th, 6 days after operation, was discharged from hospital. Twenty days later (Mch. 17, 1910) right epididymitis. Operated upon and removed to his home the following day. On Sept. 19, 1910, few motile spermatozoa found in semen. I may add that the prostate was much reduced in size after each operation.

This history is presented to show that an epididymotomy does not cause sterility.

With the 10 cases reported previously, the writer now has 25 cases, the results of which are very gratifying, and this operation must have a definite place in surgery.

Hagner operates in only 10%, while Bazet in all of his cases. Baerman advocates early puncture, even in the presence of extremely acute symptoms. Schindler recommends that every cast of epididymitis accompanied by fever should be treated by puncture. Houssian says it should be done in every case with severe inflammation, in chronic cases and in cases with recurrences.

The writer is more radical now than he was a few years ago, and although he does not advocate it in every case he feels it should be done in the majority of patients suffering from epididymitis. When you consider not only the reduced number of days of confinement to bed (Heinze claims in his series of cases, with operation there were 299 days, while without operation there were 529 days of confinement to bed, a gain of 43%); when you consider the rapidity of convalescence in its favor, for the prostate and seminal vesicles are restored much more quickly after operation; when you consider the rapidity of relief of pain and the disappearance of fever, in fact, it is an operation favorable from all points of view and of incontestable superiority, therefore everything considered, the writer feels it should convince the skeptical as well as the conservative practitioner.

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Discussion.

Dr. J. C. Spencer: I believe Dr. Krotoszyner was present at a little meeting in Dr. Chismore's office when Dr. Bazet read a paper upon epididymotomy. My attention was called to this operation on that occasion for the first time. I must admit that it did not appeal to me very strongly, the operation being as has been fully described to you by the reader of the paper and my attitude to it was a conservative one. I have tried to keep myself au courant with the progress recorded for the relief of epididymitis and as time has gone on I have found that the subject of vaccines has assumed greater and greater significance. My experience with epididymitis has practically been summed up in a paper which I read in this room several months ago and the standpoint I took then is the one I see no reason to change. I use the autogenous vaccines, supplemented with the use of saturated solution of sulphate of magnesia, applied constantly to the scrotum covering the inflamed epididymis and testicle, and when I see, as I have in a limited number of cases, treated with vaccines, the symptoms all resolve in 48 hours at the outside, I am not tempted to take the knife and make an incision into the inflamed epididymis. I have witnessed the sudden drop of the temperature and relief of agonizing pain, and to make an incision in this region, which is undoubtedly a region difficult to keep clean in a surgical sense, is hardly to be compared with the prompt and comparatively simple method of injecting with autogenous vaccines. According to the paper just read, the minimum period of convalescence of these cases is about 6 days and this can hardly be compared even with the simplicity of acupuncture, which, with aspiration, relieves the tension and so relieves the symptoms of the lesion and is far simpler than the incision. It is for this reason that I cannot see my way clear to subjecting a patient to a serious surgical operation and making quite a formidable affair of what need not be more than an injection of the vaccine.

Dr. Geo. Lee Eaton: In discussing the problem of epididymotomy the great question to consider is: are we going to produce sterility, if the testicle be left alone for Dr. Spencer to treat by his method and possibly have sterility, then as a matter of fact if Dr. Gross can produce in a sterile subject by epididymotomy, spermatozoa in the secretions, then I believe the question is on the side in favor of Dr. Gross. But let us look at it in a scientific way; if you have pus tubes in a female after opening the belly and you find the slightest inflammatory process in the tubes due to gonococcus, the tubes and ovaries are generally removed; if that be right in the female, well then, let us take this argument for the male. If we can produce a virile subject by epididymotomy let us use the knife. The question of the day is, that sterility is being predominantly produced by infection of gonorrhea, both in the female and male, and it is our scientific hopes to bring them back to the normal state as near as possible. It would appear that Dr. Gross depends entirely upon the surgical method. It would seem wise that if the doctor at the time upon opening the epididymis and the finding of pus, if he would go a step further and make a culture of that pus, grow the bacteria, make a mixed vaccine and inject it into the individual. The doctor has no guaranty that the prostatic follicles and vesi-

cles are not infected with some other micro-organisms than the gonococcus that may lend a helping hand to the production of the epididymitis and by carrying his method a little further he would ultimately eradicate all of the micro-organisms that go to produce the epididymitis. There still remains a question in the minds of the genito-urinary specialists whether the epididymitis is solely produced by the gonococcus. I believe that it is the opinion of the bacteriologists, urologists and genito-urinary men of to-day that it is dependent entirely upon mixed infection; so that wherever you have epididymitis the question of vaccines is well taken by Dr. Spencer, but if Dr. Gross would only go further and use autogenous vaccines and continue to inject these vaccines I believe that the doctor would be more pleased with his results.

Dr. Harry Spiro: As a general practitioner I believe that it is not always necessary to remove both tubes and ovaries of a female infected with gonorrhea; we can often save both of these organs; even if we do remove the female organs that is no reason why we should do the same thing in the case of a man. As to the question of sterility, I do believe there are many cases of men to-day who have healthy children and who have never had an epididymotomy performed upon them, even though they had an epididymitis.

Dr. Victor C. Vecki: Some years ago I was in the same boat that Dr. Spencer is in to-day, when I listened to Dr. Bazet's paper, and looking from the standpoint that I would not like to inflict upon any of my fellow-creatures anything that I would not want done to myself, I thought it was better to keep on with the old lotions, etc., but I must confess that I have been thoroughly and entirely converted. During the last year every case of epididymitis that came under my hands was operated upon and I am glad to say so because the results were always most beautiful,—almost charming. The first case I operated upon was one that I was at a loss to know what to do because the man did not get well of the inflammation and finally I took him to the hospital and with Dr. Gross's able help, operated upon the epididymis and the result was a most remarkable one. It was a very instructive case because the man formerly had a left sided epididymitis and such a hardening and induration left there that I am positive his left testicle did not functionate any more. He now has very lively spermatozoa; I am sure that had I waited the right testicle would have become as the left was, and the man would have been sterile, which he is not. The last case I operated on was in the French Hospital a few weeks ago. The man had been suffering from a chronic gonorrhea for quite a while and no practitioners or specialists had been able to help him. He was operated on and he now had no discharge, the prostate gland took on its normal size, the testicle reduced in size and the pain was almost immediately relieved and he is now able to do his work. We must not attach too much importance to the finding of spermatozoa a short time after the operation, for it is possible that they did not come from the testicles because it may have been stored in the seminal vesicles for quite a while and not be a new production, so it will take more than a few weeks to really determine whether there is sterility or not.

Dr. Louis Gross: I regret Dr. Spencer has not performed this operation, for had he done so he would have been pleased with the results. In these cases I had used both autogenous and stock vaccines and have obtained no results. I wish to impress the members that this is not an epididymectomy but an epididymotomy, we are only cutting into the epididymis, not removing it. The statistics of cases of double sided epididymitis show sterility, yet in this case of double epididymotomy reported to-night there is no sterility. I do not advise operation in all cases, only the special ones. It is certainly remarkable to

see how quickly the prostate and seminal vesicles resume their normal state after this operation, in contrast to the cases without operation.

Report of Cases by Dr. Krotoszyner.

Dr. Krotoszyner reported two cases of kidney colic in connection with herpes zoster. In both cases a typical herpes zoster was observed in Head's peripheral hyper-algetic zone of the kidney. In one case the attacks of kidney colic had been caused by a left-sided hydro-nephrotic sac due to obstruction of the ureter by means of a small calculus. In the other case the attacks were caused by a unilateral nephritis and peri-nephritis in a right-sided stone kidney. In both cases the removal of the diseased kidney was followed by recovery.

These observations will later be published in extenso.

Demonstration of Specimen from a Case of Liver Abscess.

By LEO MUNTER, M. D.

Mr. H. H. was first seen by me on July 12th, 1909. At that time he complained of weakness, headache and of perspiring freely, particularly at night, with occasional chills, this having lasted about one week. He also had a slight cough, some little sputum which had a bad taste, and on coughing there was pain in the right chest. He was 53, of good habits, his previous history uneventful, and except for one brother dying of gallstones, the family history was negative.

From July 12 to August 31, the patient was kept in the hospital. During this time he ran an irregular, intermittent temperature, at times up to 106.6 (rectal), with a pulse practically never over 120, and usually of about normal frequency. Respirations were always normal.

Examination of patient showed but slight and inconstant rigidity of the upper part of the right rectus, which made us think of the possibility of trouble in the liver, such as an abscess, or of some renal or perirenal suppuration. Blood examinations showed leukocytes ranging from 14,000 to 30,000 with polys about 88%. Malarial plasmodia repeatedly looked for in fresh specimens at times of chills as well as in stained specimens were never seen. Reports of cases of dysentery being common at this period, the patient's stools were frequently examined but ameba never found. Widal's were absolutely negative. The urine showed large amounts of albumin and casts, warranting at least the diagnosis of a parenchymatous nephritis, and from July 19th to 24th, a marked bacteriuria was present, associated with a pyuria, so that a pyelitis was suspected. On the 9th of August the ureters were catheterized, with negative report.

About this time the patient began to improve, and he attributed this to the presence of a loose cough with a slight purulent expectoration. The patient left the hospital feeling practically well, but he still retained his albuminuria. The most probable diagnosis so far as I could see, was that of a liver abscess, which opinion had been expressed by Dr. Bine, who saw him repeatedly with me while in the hospital. On the other hand, Dr. Kerr, who saw him but once, thought a malarial infection most probable, and quinine was therefore administered, after which no more chills or high fever occurred.

The patient remained well until April 8th, when he began to have about the same symptoms as with his first attack, with the addition of pain in the right infraclavicular region, increased on deep inspiration. He entered the hospital on the 11th, from which time Dr. Bine and I saw him together. Examination again showed a rigidity of the right rectus, with tenderness in this region; but repeated examinations, at times in the hot bath, revealed no definite mass. The chest was negative. Leukocytes, 15,000. Temperature to 102.6 rectal, and was irregularly intermittent. There were no chills. Pulse and respiration were normal. Widal negative. With his illness of 1909 ever before

us, we again suspected a liver abscess but could in no way clinch the diagnosis.

On April 17th signs of effusion in the right pleura led to an exploratory puncture. A few cc. of clear fluid were withdrawn. Cultures and smears were negative.

By the 22nd the signs of effusion were very marked, and the patient's condition worse, so that an empyema was diagnosed, but punctures made in the 7th and 8th spaces withdrew about 300 cc. of clear fluid, these aspirations, as well as the one of the 17th, being interrupted by the appearance of bright red blood.

By the 26th the general condition became very much worse; pulse jumped up and respirations became very rapid. On the 27th exploratory punctures were again made, the 3rd attempt being followed by a spurt of pus; 1500 cc. were aspirated; smears showed numerous streptococci. Two hours later, under local anesthesia, rib resection was performed. The diaphragm was found pushed up, and though the pus cavity seemed well walled off, a needle was inserted into the liver, but without finding pus. The patient stood the operation nicely, but in spite of stimulation, grew progressively worse. On the 28th, not satisfied that all foci had been found, for the signs of effusion were still present anteriorly and less so posteriorly, needles were again inserted through the wound into the liver and also into the pleural cavity and the liver area anteriorly, but without finding pus. Death occurred at 9:15 p. m.

Postmortem performed by Dr. Dickson.

The following extract from the postmortem notes describe the essential lesions. On removal of sternum, large abscess cavity is exposed to right of mid-line. Left lung is small, crowded to left, has practically no fluid in pleural sac, but is bound down by fairly dense adhesions, particularly the lower lobe, especially posteriorly. On passing the hand around the right lung, breaking down the fibrinous adhesions in right pleural sac, a moderate amount of a dirty somewhat blood-stained pus escapes. The adhesions are all recent character except a dense band in axillary line about level fifth rib. The incision opened into a partially walled off cavity, walls of which were covered with fibrino-purulent exudate. On removing the lung, perforation in diaphragm found at summit of the arch on right side. Lung is small, almost completely collapsed, lower lobe alone containing small amount of air. Spleen about twice normal size.

Liver fairly adherent to diaphragm around the region of perforation. Liver very large, soft, somewhat pale. In right lobe, at extremity of dome, is large abscess cavity, about 5 cm. in diameter, walls of which are lined with shaggy fibrino-purulent material. This abscess opened into right pleural cavity through perforation in diaphragm. On the posterior surface of left lobe is large soft and fluctuating mass about size of small orange; on section large amount greenish pus escapes; the walls are lined with smooth, dense fibrous tissue. On cutting from before backwards through the upper abscess a number of smaller abscesses varying in size, up to 1 cm. in diameter, are found in the liver tissue behind it. There is at least 1½ inch of normal looking tissue between these abscesses and the one on the posterior surface of liver.

SAN DIEGO COUNTY.

A free clinic and dispensary has been opened in San Diego for the treatment of general medical and surgical cases. The clinic is to be known as the Talent Workers' Clinic, and is conducted jointly by the San Diego County Medical Society and a charitable organization known as the Talent Workers, whose ultimate aim is the establishment of a large general hospital for both charity and pay patients.

Several rooms have been fitted up in the same building as is occupied by the Anti-tuberculosis

Clinic and the Associated Charities of San Diego, which will aid in looking up the standing of applicants for treatment. B. J. O'NEILL, Secretary.

BOOK REVIEWS

Examination of the Urine. By G. A. DeSantos Saxe, M. D. W. B. Saunders Company, Philadelphia, 1910.

That Dr. Saxe's work should so soon have gone to a second edition is not surprising. Among the innumerable books on urine analysis it has a place of its own and supplies a want that has long been felt. What the progressive modern practitioner demands is a description of processes that are really in use and useful. This requirement Dr. Saxe has in every way fulfilled. The obsolete processes are eliminated; those in current use amply described by text and drawings. But the book is much more than a mere manual of laboratory practice; its most valuable feature is a thoughtful analysis of the value and clinical significance of the analytical and microscopical findings. It gives the consensus of expert opinion, and often the personal views of the author; frequently the presentation is new. We would in particular draw attention to the valuable remarks on "Acidity," and the analysis of the "Methods of determining the functional efficiency of the kidneys." The drawings and colored plates are especially worthy of commendation. In particular we would instance the excellent series of plates on the epithelia and on urethral shreds. For the benefit of students, each chapter ends in a number of questions reviewing the subjects therein treated. We know of no other work that in the short space of 420 pages so fully, clearly and interestingly covers the field.

H. D'A. P.

A Text Book of Chemistry. For Students and Practitioners of Medicine, Pharmacy and Dentistry by Edward Curtiss Hall, M. S., M. D. Illustrated. F. A. Davis Company, Publishers, Philadelphia, 1911.

The book begins with physics, from the standpoint of the student in Medicine, Pharmacy and Dentistry, thus laying the foundation for the chapter on Chemic Philosophy, which follows; both being preparatory to the essentially chemical part, i. e., Inorganic and Organic Chemistry; the former chapter beginning with the metals, continuing to the salts, and the latter from the hydrocarbons to the proteins. Following the chapter Analysis, which is lucid and well tabulated, are Incompatibility, Sanitary Chemistry, Toxicology, Physiologic, Clinic and Pathologic Chemistry. Each chapter opens an opportunity not only to enter, but to view the subject from the standpoint of the chemist; for students in medicine and allied branches have so many standpoints to occupy, that it is very important that they be clear ones. So much laboratory work is required of the student in these branches to-day that a concise volume on chemistry, which is both clear and comprehensive—if he be limited to one—is welcome for its essential data. The work shows painstaking labor, a knowledge of the subject, and is withal, presented in an attractive way.

FRANK T. GREEN.

Obstetrical Nursing for Nurses and Students. Henry E. Tuley, A. B., M. D. Published by J. P. Morton & Co., Louisville, Ky. 1910.

A summary of the practical points about obstetrical nursing, written in good order. Taken from the standpoint of a nurse whose needs it is, of course, meant to supply, it is recommendable; it will hardly suffice, however, for the student of medicine.

C. B. M.

Diseases of the Stomach and Upper Alimentary Tract. By Anthony Bassler, M. D. Published by F. A. Davis Co., Philadelphia, 1910.

The subject of diseases of the stomach has been

very ably presented for some years by several authoritative works and it would seem that any new book covering this field should have some special points of merit to justify its presentation. After a rather careful study of the present volume the reviewer cannot feel that it answers this requirement. Aside from a few personal ideas on some subjects, the same ground has been fully as well or better covered by already existing works. This is not to say, however, that the present volume has not merit. The first half of the book is taken up with a discussion of the anatomy and physiology of the upper alimentary tract; the various methods of examination in general use and a discussion of the various methods of treatment. The author lays great emphasis on laboratory examination, rather more in some conditions than seems justified by the sum total of information to be obtained. He seems to feel that the determination of the combined acidity of the gastric contents is decidedly important and yet recommends for its estimation the Alizarin method, which is notoriously inaccurate. The chapter on the Roentgen ray examination of the stomach is quite good and is accompanied by a number of excellent reproductions of bismuth plates.

The second half of the book is taken up with a discussion of the diseases of the upper alimentary tract. In general this phase of the subject is well presented. The chapter on the esophagus seems rather inadequate and the subject of gastric tetany receives too scant attention.

In the article on syphilis of the stomach is described the technic of the Wassermann test, which seems unnecessary in a book of this nature.

There are some excellent plates of specimens of carcinoma of the stomach. In general, it may be said that the author's style is rather involved and does not make easy reading. The very glossy paper used makes reading by artificial light very trying.

H. W. A.

The Principles and Practice of Dermatology. By William Allen Pusey, A. M., M. D. D. Appleton, & Co., 1911.

Four years is but a short interval between the first and second editions of Dr. William Allen Pusey's text book on the Principles and Practice of Dermatology, but the excellent portrayal of the new knowledge gained in the subject of skin diseases, and progress has been extensive in the last few years, fully justifies this late edition. The book merits most careful consideration among text books on dermatology, and now that we cannot look forward to later editions of the works of Crocker or Hyde it is a great satisfaction to feel that one of the younger men can help supply the want.

Pusey's treatment of the subject is most satisfactory. The one hundred and sixty-eight pages devoted to the Principles of Dermatology would make an excellent handbook if published separately for the use of dermatologists in particular. And the Practice of Dermatology is so complete, and as nearly up to date as possible, that no physician will regret considering this new book an excellent one for reference, as the illustrations are all good, and the reading matter is not tiresome. Although the book contains over 1000 pages in one volume, in its cloth-bound form, it is not cumbersome.

G. D. C.

Hydrotherapy. A Treatise on Hydrotherapy in General. Its application to special affections, the technic or processes employed and the use of waters internally. By Guy Hinsdale, A. M., M. D., Octavo 466 pages illustrated. Philadelphia and London. W. B. Saunders Co., 1910. Cloth, \$3.50.

The writer's intention to produce a practical work has been ably fulfilled, being a complete reference book, especially for the student and general practitioner. The author has shown, in the preparation of the book much research work and gives due credit

to the various leading authorities. The subject is treated in a concise, clear and practical manner, showing that the action of water, both internally and externally, is based on rational scientific principles. The illustrations are excellent, giving a definite and correct idea of the approved methods of employing hydrotherapy. A considerable space has been devoted to the use of waters internally, both in health and disease. He strongly advocates the obligatory study of hydrotherapy in our medical schools and quotes in full Dr. Simon Baruch's excellent paper on this subject. N. S.

Public Hygiene. By Thos. S. Blair, M. D.; 2 vol., illust., 664 pps. The Gorham Press, Boston.

Public Hygiene, the science of the conservation of public health, is, to-day, probably the most important and most attractive branch of medical science. The subject as usually presented in textbooks is apt to be dry and uninteresting to the average practitioner who may not care for figures and formulae. Blair's work reads like a story book and contains a wealth of observations together with practical suggestions that may be acted upon to great advantage in innumerable localities. It has the further distinction of considering the subject in its living relation to the public and shows the difficulties encountered by the sanitarian in the practical application of his principles to the community; for, it is not sufficient to possess the principles underlying the prevention of disease nor to have the requisite laws, but these principles and these laws must be enforced on a more or less obstinate and refractory public and they must be enforced in such a manner as to make friends and apostles for sanitary work.

The book opens with the treatment of the difficult question of home quarantine in the urban and in the rural community; the sanitary aspect of hotels, lodging houses and public dwellings, with interesting details of the best examples of each type. Then comes a chapter on school inspection and college sanitation including suggestions for following the lead of the London School in establishing special courses in sanitation and providing for a post-graduate degree of Doctor of Public Health. As a matter of fact the recounting of the mere headings of chapters reads like an encyclopedia on sanitation. "Places of amusement and dissipation" is the heading of a chapter which contains a discussion of our own burning question, "The Municipal Clinic."

One of the best portions of the entire work is the consideration of State Departments of Health and City Boards of Health. This is well worth the study of any one interested in sanitation, as the distinguishing features of each State Board are given, together with the various forms of management of City Health Boards. This is followed by a discussion of a proposed Federal Bureau of Health in which the author demonstrates the value of such a bureau as a means of standardizing and co-ordinating the work of the various state boards. The United States Public Health and Marine Hospital service is at present fully equipped for undertaking such duties and would merely require to increase its personnel in the same manner in which it obtains its officers at the present time; within a few years there would then be in the United States a corps of sanitarians second to none in the world.

The sanitary questions involved in the establishment and maintenance of camps and in the construction and handling of war vessels are written by competent officers of the army and navy.

Pure foods and drugs, public carriers, etc., are given the full consideration due these respective subjects. G. M. C.

"Inebriety." By T. D. Crothers, M. D., Superintendent Walnut Lodge Hospital, Hartford, Conn.

We have read with a great deal of interest a book on Inebriety by Dr. E. B. Crothers, just issued by the Harvard Publishing Company, Cincinnati, O.

Considering the dearth of scientific books along this line, Dr. Crothers is to be commended for covering the field so thoroughly; he begins his subject before the period of Christ, making it clear that inebriety was then recognized as a disease and serious efforts were made to cure such cases with surprisingly good results. He also shows the evil of an excessive use of alcohol at that period just as it exists to-day.

Through the recognition of inebriety as a disease, its many forms and classifications made clear, and the methods set forth for the relief of this condition, this book will be the means of many physicians taking up this branch of medicine as a specialty, and ultimately result in the saving of many lives and restoring the mental condition of many people who are now considered as useless members of society.

The chapter on the state care and treatment of inebriety is well covered and is earnestly recommended to the lawmakers and officers of charitable institutions of this state in the hope that through their efforts such an institution will be established.

Hyoscine is used by some to induce sleep and quiet in acute alcoholism, but much harm is the outcome and I heartily concur with Dr. Crothers, in that the use of hyoscine is of no benefit in such conditions, is decidedly harmful at this period of the disease and should not be used, particularly in large doses.

Considering the fact that this work has been done almost exclusively by the charlatan and quack, and completely ignored by the regular physician, it is to be hoped that this edition of Dr. Crothers' book will soon be exhausted, as it can be profitably read by every physician and student. R. E. B.

Therapeutic Action of Light. By G. E. Rogers, M. D. Published by author, 1910.

Dr. Rogers claims to have discovered a ray called the "Rho" ray which is produced by carbon filament incandescent lamps of over 600 candle-power, and it is the therapeutic power of this light-ray that he discusses in his book. Great results in the treatment, not only of superficial lesions such as skin diseases and epitheliomata are claimed, but also in the treatment of more deeply seated lesions, as in pneumonia, phthisis pulmonalis, rheumatism and other joint affections, syphilis and acute inflammations of the appendix, middle ear, bladder, meninges, uterus, etc., etc. While the results are reported as excellent, it would, perhaps, be wiser to suspend judgment until other investigators have added corroborative evidence. G. H. T.

The Prophylaxis and Treatment of Internal Diseases. By F. Forchheimer, M. D. Second Edition. Published by D. Appleton & Co., New York. 1910.

"Learn to administer that drug which is followed by the best results, i. e., by prompt action and the minimum amount of damage—and use this drug until satisfied that something better has been offered. In adhering to one drug, the administration and effects of which are thoroughly understood by the physician, both he and his patient will fare better than by taking up the new unknown drugs, whose number promises to be without end."

Such is the sound advice of Forchheimer in the second edition of his excellent work on the prophylaxis and treatment of internal diseases. The first edition has been thoroughly revised and many subjects amplified. Much which is conservative has been added in the way of organo-therapy. If we were hypercritical, a criticism might be made of the large amount of space given to, and the arrangement of, the subject of prophylaxis. We might also suggest that the author could have been more specific as to the indications for increase of dosage, and change of drugs in the treatment of certain diseases. In the teaching of internal medicine, case reports have assumed an important role, and we anticipate that in the near future, the authors of our text-

books on the treatment of internal diseases will employ the same method. In general, we can highly recommend the work and wish it the success it deserves.

Hydrotherapy. By Geo. K. Abbott, M. D. Published by College Press, Loma Linda, Cal.

The field of hydrotherapy is so well covered by several excellent text books already in existence that one takes up with a feeling of surprise a new work on this subject by George K. Abbott, Dean of the Faculty and Professor of Hydrotherapy and Practice of Medicine in the College of Medical Evangelists, Loma Linda, Cal.

It is fitting, perhaps, that the new publication in this well occupied territory should emanate from a new medical school in a state already as well supplied as this one, since our surprise over the work in hand is lost in wonder at the establishment of the new institution and in speculation as to what it can possibly add to the overstocked field of medical education in California.

The justification of the work is probably contained in its dedication: "To those who are seeking to be co-workers with the Great Physician in the healing of disease by the use of Nature's remedies." The implied reproach to those who are healing disease by unnatural remedies, whatever they may be, is not lost and is doubtless well deserved, but one cannot help wishing that the co-workers with the Great Physician did not have to be taken through a rapid review of physics, chemistry, anatomy and physiology, not forgetting a chapter on nitrogen metabolism before coming to the subject of hydrotherapy in the latter half of the volume.

The chapters on anatomy of the skin, physiology of the circulation, metabolism and so forth, contain many important facts to be found more elaborately dealt with in text books on those subjects, but their inclusion unfortunately conveys the impression to the unprejudiced observer that the co-workers with the Great Physician at Loma Linda may possibly have neglected some of the prerequisites of a medical course.

After the elaborate introduction one is not unprepared to be supplied with a short résumé of pathology, etiology, diagnosis and treatment of the various diseases mentioned as benefited by hydrotherapy: when, however, hydrotherapeutic measures are finally discussed, the information is, upon the whole, so correct that one cannot help wishing that the author had expended all his energies upon the subject of his treatise.

One regrets that he thinks it necessary to cinch his conclusions by citation of experimental data. In the last decade the subjects suited and unsuited to experimental investigation have been so thoroughly overhauled that the general literature resembles Holy Writ in one way at least, in that one may find, if he searches, apparent justification for almost any theory under the sun; and as even Holy Writ is said to be quoted by a certain unpopular individual for his own ends, it would perhaps be better to omit reference to experimental work which cannot be said to be thoroughly conclusive.

So much ground has been covered in a volume of less than three hundred pages, that it is to be expected that the print should be small and illustrations lacking.

The book is from the College Press, Loma Linda, California.
L. S. M.

THE USE OF DIGIPURATUM IN HEART DISEASE.

William F. Boos, L. H. Newburgh and H. K. Marks in a paper published in the April issue of the Archives of Internal Medicine, discuss the great differences observed in the pharmacological strength of digitalis leaves and their preparations. The ef-

iciency is said to depend greatly upon the soil, the gathering season, the method of collecting and drying the leaves and the methods used in preserving the dried product. For a time it seemed as if the pure active principles of digitalis would be reliable substitutes for the galenical preparations, but it was soon evident that neither digitalin nor digitoxin alone could produce the true digitalis effect obtainable from the leaf preparations. These facts show the need of leaf preparations of known strength. As the fluid preparations do not retain their original strength so readily, the dry standardized products are preferable. In digipuratum, a dry digitalis extract, was found free from the harmful digitonin and 85% of the bulky and inactive matter. The drug is standardized by means of the frog experiment so as to be equal in strength to the equivalent amount of potent leaves, this strength being uniform.

Digipuratum was employed extensively by the authors in the medical services of the Massachusetts General Hospital. Eight cases are quoted and tabulated, showing interesting features. The diuresis was efficient in all cases and a marked effect on the pulse rate was usually present. One case was sent to the hospital in a moribund condition but reacted very quickly to the drug, so that compensation was re-established in a week. The digipuratum was usually given in the form of treatment of twelve tablets each and while in some cases the first treatment gave little or no result, the second was always very efficient. Good results may often be obtained by combining the medication with venesection, the removal of fluid by tapping or by combining the digipuratum with other drugs, such as diuretin or apocynum.

Digipuratum has now been used in the Massachusetts General Hospital for over a year and more than 180 cases of primary heart disease or secondary cardiac involvement have been treated with it. The effect on the urinary output has been very prompt in most instances. There was not a single case of vomiting or diarrhea; in fact the vomiting of a number of cardiac cases at entrance was promptly stopped by digipuratum. Cumulative poisoning was never observed. One of the early patients, a boy of 16, was given 106 tablets in six weeks; at no time was there any suggestion of digitalis poisoning. In one or two instances, the house officers were made uneasy by sudden drops of forty or more beats in the pulse rate, but no disagreeable consequences followed in any case. It must be remembered, naturally, that digipuratum is a digitalis preparation, but the tendency to produce poisoning is much diminished so that it is possible by means of this drug of reliable strength to push digitalis therapy in a manner hitherto unknown.

TRANSLATIONS AND ABSTRACTS.

To the Editor of the State Journal: During the last four years that I have been going to George Washington Medical School, here in town, I have done a great deal of abstracting and translating of medical literature, for various physicians who were interested in following up certain cases and reports of different investigations, which work involved pretty nearly every branch of medicine and surgery, as well as necessitated a thorough acquaintance with practically every publication of importance, both domestic and foreign.

Having now graduated I now intend to continue this work on a much larger scale, and beg to call your attention to the following points: (1) I have received a thorough college education with the degree of A. B., so that my work is not only scien-

tifically correct, but is of good literary taste, as well. (2) I have graduated from our medical school at the head of my class, having received both the highest honor and "with distinction." (3) No better place exists for research work in the medical literature than Washington, D. C., where the Surgeon-General's Library—the best medical library in the world—possesses every text-book and periodical, no matter where or when published. (4) Doing my own abstracting from French, German, Italian, Spanish, Russian, Hungarian, Swedish, Danish and Dutch, I do not employ any other translators and thus am able not only to ensure the high standard of the work but also do it cheaper. (5) My work is indorsed by such men as Dr. J. Wesley Bovée and other prominent physicians and surgeons.

I therefore take the liberty of asking you to help me make this letter known to such physicians in your state as might be interested in the kind of work I do.

Any suggestion as to means of getting into communication with physicians of your state will be heartily appreciated.

Sincerely yours,

ARTHUR A. EISENBERG,
Garfield Memorial Hospital,
Washington, D. C.

MARIE FEODOROVNA PRIZE COMPETITION TO BE HELD IN CONJUNCTION WITH THE NINTH INTERNATIONAL RED CROSS CONFERENCE, 1912.

Subjects for Competition.

1. Organization of the methods of evacuation of the wounded on the battlefield, comprising as complete an economy as possible in litter bearers.
2. Portable (surgeons') washstands for war.
3. Methods of packing dressings at the aid stations and in the ambulances.
4. Wheeled stretchers.
5. Carriage of stretcher on mule-back.
6. Folding stretcher easily portable.
7. Transport of the wounded between war vessels, hospital ships, and the coast.
8. The best method of heating railroad cars by a system independent of steam from the locomotive.
9. The best model of a portable Roentgen apparatus, permitting utilization of X-rays on the battlefield and at first aid stations.

Prizes.

- 1 First Prize of 6000 roubles (approximately \$3,000).
- 2 Second Prizes of 3000 roubles (approximately \$1,500) each.
- 6 Third Prizes of 1000 roubles (approximately \$500) each.

When and Where to be Awarded.

Inventions entered in this competition are to be displayed at an exhibition to be held on the occasion of the Ninth International Red Cross Conference at Washington, D. C., May 7-17, 1912.

All persons intending to compete for these prizes must forward to the Chairman of the Exhibition Committee, at the above address on or before December 31, 1911, a statement of such intention, giving the number of cubic feet which will be required for the exhibition of their inventions.

Articles entered in this competition must be received, carriage prepaid, at Washington, D. C., on or before April 15, 1912.

Full particulars and conditions as to delivery and removal will be supplied in good time to inventors who give notice of their intention to compete.

Further information, if desired, may be obtained from the Chairman of the Exhibition Committee, War and Navy Building, Washington, D. C.

LOST OR STOLEN.

Between Friday, June 30, 1911, and Saturday, July 1, 1911, there disappeared from the Scientific Exhibit of the American Medical Association meeting on the fourth floor of the Hamburger Building at Eighth and Broadway, Los Angeles, California, one microscope which was loaned by Dr. Charles E. Atkinson, 700 East 25th Street, Los Angeles, California. This microscope was a Bausch & Lomb make and was numbered 69,534, being a BB 8 type with a mechanical stage. Dr. Atkinson purchased this microscope from the Pacific Surgical Company of Los Angeles, paying \$93.30 therefor. We do not know whether this microscope was lost, strayed or stolen, and are sending out these notices in order to get some information concerning it. Your co-operation will be appreciated.

Very truly,

GEORGE H. KRESS,
Secretary Executive Committee, 240 Bradbury
Building, Los Angeles, California.

PSYCHO-THERAPY.

Siegfried Block and Prince C. Hopkins have started a new phase of psycho-therapy. They are attempting in a strictly ethical and scientific manner to introduce this matter to the medical profession about the same way it is done in the various centres of learning of Europe. One is a psychologist and the other an alienist and neurologist.

They will treat only recommended patients, using all of the psycho-therapeutic methods now in vogue, including Freud's Psycho-Analysis, Block's Relaxation, Hypnotism, memory and association tests, etc. They are especially desirous of receiving such cases as the various hysterical manifestations (choreics, tics, phobias, paralytics, psychasthenics, egos, stutterers, stammerers, hallucinations, fields,—alcoholic and morphinists, etc).

The idea is novel in that one man in each branch will attempt to combine psychology and medicine. They have established offices at Hotel Astor, 44th street and Broadway, and have hours on Saturday afternoons from 2 until 5 o'clock.

NEW MEMBERS.

Carpenter, F. L., Berkeley.
Lackey, H. J., Oakland.
Mugler, F. R., Oakland.
White, J. T., Oakland.
Boyer, H. R., Oakland.
Anderson, P. J., Berkeley.
Fitzgibbon, F. F., San Francisco.
Crediford, D. B., Rialto, Cal.
McSwain, T. O., Visalia, Cal.
Burchard, E. A., Lodi.
Young, J. Audley, Oakdale.
Endicott, E. E., Jackson.
Gnekow, E., Stockton.
Brown, V. de P., San Francisco.
Berger, Albert, San Francisco.
Linforth, Grace, San Francisco.
Somers, H., San Francisco.
Tillman, F. J., San Francisco.
Tillman, T. E., San Francisco.
Bigelow, C. L., San Francisco.
Felt, Rae, Eureka.
Scott, W. P., Bakersfield.
Worthington, Lois, Bakersfield.
Jordan, A. B., Wasco.
Yates, H. N., Pacific Grove.
Watson, V. B., Castroville.

DEATHS.

Cook, J. B., Los Angeles.
McCarthy, D. A. S., Hemet, Cal.
Walsh, W. J., San Francisco.
Rice, Weston H., Oakland.
Fargo, Jno. F., Los Angeles.
Frisbie, Edw. G., San Francisco.

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Trypsogen exerts a profound influence over nutrition, which is shown by a marked increase in weight and strength, hence is a very valuable adjunct in the successful treatment of all diseases accompanied by decline in weight and strength and loss of resisting power; but its special field of usefulness has been in the treatment of Diabetes Mellitus.

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